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GENERAL ISAAC JONES WISTAR, U. S. A.

Coxe Publication Fund.

PROCEEDINGS

AND

COLLECTIONS

OF THE

WYOMING HISTORICAL AND GEOLOGICAL SOCIETY,

FOR THE YEAR 1917.

EDITED BY

REV. HORACE EDWIN HAYDEN, M. A.,

Corresponding Secretary and Librarian.



VOLUME XV.

WILKES-BARRÉ, PA.

PRINTED FOR THE SOCIETY.

1917.

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PRINTED BY THE E. B. YORDY Co.

Wilkes-Barre, Pa.

PREFACE.

In presenting Volume No. XV to the members of The Wyoming Historical and Geological Society, it should be said that the Rev. Horace E. Hayden, Corresponding Secretary, has corrected and edited all the matter which it contains.

It is with regret that we have to say that, just as the volume was ready for the press, Mr. Hayden became too ill to give it the final finishing touch by writing the Preface. This has, therefore, been done by the other members of the Publishing Committee. It is hoped that Mr. Hayden will soon be able to again take up his active work for the Society, in which he is so much interested.

Volume XV keeps closely to the line of subjects which fall within the scope of our Society, and we feel that it will not suffer by a comparison of its contents with previous publications of the Society.

The "*In Memorium*" to Eckley B. Coxe, Jr., will have a general interest, as Mr. Coxe was associated with large business affairs in our county, showed a real interest during his lifetime in the work and was a generous and liberal supporter of our Society.

The detailed descriptive paper of one of the fine Indian collections in our cases, by Mr. Alfred F. Berlin, will be of interest to Archeologists generally.

The selections from the "Reminiscences of Gen. Isaac J. Wistar," by Gen. Charles Bowman Dougherty, touches the activities of a very eventful life in many phases, especially during the California gold excitement in 1849.

The Vital Statistics of St. Stephen's Protestant Episcopal Church, continued from Vol. XIV, covers the period from 1839 to 1866, and will be of interest to many members.

The volume includes, also, the current yearly matter, as printed in previous volumes: Obituaries of Members, Reports, Lists of Officers and Members, etc.

GEORGE F. CODDINGTON,
MISS MYRA POLAND,
CHRISTOPHER WREN,
Publishing Committee.

August 1, 1917.

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Library

THE WYOMING HISTORICAL AND GEOLOGICAL SOCIETY,

WILKES-BARRE, PENNSYLVANIA,

Organized 1858,

Has a handsome and permanent home provided by the will of the late Isaac S. Osterhout, founder of the Osterhout Free Library.

A library of 20,000 books and pamphlets not duplicated in the Osterhout Free Library, including all Pennsylvania and United States Publications.

Collections of 45,000 Archæological, Geological and Ethnological objects.

A Life Membership of 212, the fee for which (\$100) is invested.

A Resident Membership of nearly 200, annual dues, \$5.00.

Rooms open to the public daily, except Sunday, from 10 A. M. to 5 P. M.

Members receive all privileges free, also all publications of the Society.

The Society has published fifteen volumes and twenty-five pamphlets.

The Geological Library has over 2,000 volumes with all State reports.

The Society solicits donations of Indian relics, local especially, geological specimens and local antiquities.

Address,

Wyoming Historical and Geological Society,

Wilkes-Barre, Pa.

FORM OF A BEQUEST.

I give and bequeath to the "WYOMING HISTORICAL AND GEOLOGICAL SOCIETY," the sum of (*here state the sum to be given*), for the use of said Society absolutely.

FORM OF A DEVISE.

I give and bequeath (*here describe the real estate to be given*), unto the "WYOMING HISTORICAL AND GEOLOGICAL SOCIETY," its successors and assigns forever.

The Society will be glad to receive any parts of Volume 1 of its Publications that members may be willing to spare.

For sale, one set 2d Penn'a Geological Survey, 120 volumes (new). One set Grand Atlas, 6 volumes. One set Penn'a Mine Reports, 43 volumes.

Johnson's Historical Record of Wyoming Valley. 14 volumes, full of family and local history, \$15.00; reduced from \$21.00. No longer printed. Single volumes, \$1.50. Proceeds to create the Rev. Jacob Johnson Fund, 1770-1792. Founder of First Presbyterian Church, Wilkes-Barre.

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REPORTS AND COLLECTIONS
OF THE
Wyoming Historical and Geological Society

Volume XV.

WILKES-BARRÉ, PA.

1917

REPORTS.

**Report of the Corresponding Secretary and Librarian for the
Year ending February 11, 1916.**

Mr. President and Members of the Wyoming Historical and Geological Society:

A coincidence that can occur but once in the history of this Society is the fact that this is the fifty-eighth anniversary of its organization which occurred fifty-eight years ago this night, February 11, 1858.

We have really celebrated the occasion properly by the issue of the fourteenth volume of our Proceedings, which in the character of its contents fully equals any of its predecessors.

It is with heartfelt congratulations that I am able to report a most important and sorely needed advance in the work of the Society in a larger membership than ever before, and an endowment that should make our hearts glad with thankfulness and with great hopes for the future of the Society.

You were last year urged most earnestly to take some action toward adding to both of these features of the work. The result of our efforts were the generous gifts from Mr. Abram Nesbitt of \$8,000 in good negotiable bonds, and \$2,000 from Mr. John Welles Hollenback, both of which liberal members had already added much to our endowment. These gifts, with the addition from life membership, has increased the endowment of the Society to over \$67,000.

But this is not all. The most interesting part of our annual volume of Proceedings just issued is the "Reminiscences of the Hon. Charles Miner, a Pennsylvania Pioneer," one of the earliest members of this Society in 1858, and the author of the "History of Wyoming, 1845," which has made

our section famous by its tragic narrative of the massacre of 1778. His granddaughter, Mrs. Elizabeth Miner Richardson, whose husband, Dr. Charles Francis Richardson, Ph. D., Lit. D., was the editor of the "Reminiscence", has ordered 500 reprints of this fascinating narrative to be issued and has donated to the Society several hundred copies of the work bound like the annual volume. These are to be sold by the Society for its benefit. They will be offered to the many public libraries and book lovers in the country and the proceeds will be devoted to the formation of a "Charles Miner (Historian) Fund", to be added to the endowment.

This purpose has so well suited the desires of Mrs. Richardson that she has sent to the Treasurer the sum of \$500 to begin this fund, which the sale of the reprints will increase to \$1,000. Besides this fund, Mrs. Frederick C. Johnson has promised to add \$500 to the fund created by her last year and named for her late husband, so long our Treasurer and Historiographer, increasing that fund to \$1,000.

The necessary income for the Society is \$4,500. Membership, of course, makes up a part of this amount, but membership fluctuates as investments do not, unless it be in bonded securities. Members will die and the only way to lessen the financial loss that thus falls upon the Society is to have our life membership increased. That is a memorial membership, never decreasing, always invested and annually published in memory of the life member, while annual membership ceases with the death of the member. Among the six life members added in the past year, four were the names of deceased members made life members in their memory.

Reference has just been made to the binding of our many unbound books. The Society has about 500 books in its library awaiting binding, the only binding fund we have being the Andrew Hunlock Fund, which nets the Society annually fifty dollars for binding the historical and genealogical magazines. The continual additions of unbound books is easily explained.

There are between 200 and 300 Historical Societies in the United States, including over forty which are members of the Federated Historical Societies of our own State of Pennsylvania. The Librarian has enriched the Society

library during the past twenty years by a system of exchange with fully 150 of these societies, and that is one reason why this Society has such a wide reputation for its volumes of Proceedings. In this exchange some of the largest historical societies like the New York Society, the Pennsylvania, the Essex, the New Jersey, the Michigan, the Wisconsin, the Antiquarian and other such large societies have sent us in exchange what has quadrupled what we have sent them, thirty and forty volumes for our fourteen. Many students have come here for research after days of unfruitful visitation to the Library of Congress and other like institutions and have found here the very information they had in vain sought for elsewhere, because the Librarian is personally interested.

Now many of these societies of lesser size or finances than those just named are not able to issue their publications bound. Hence, coming to us unbound, if used in that condition, they are often worn out before binding is possible. You will recall that this Society, of which you are members, issued twenty-five pamphlets and eleven volumes of Proceedings unbound before the Coxe Fund of \$10,000 made it possible to give our members their volumes in binding.

It will cost us annually \$200 to bind the unbound additions to the library until all the 200 societies are able to send out their publications bound. Will not members think of this needed fund for the library, and will not some, who are rich in this world's goods, and, who cannot take with them their wealth into the other world, remember the Society in their last Will and Testament by a legacy for a general Binding Fund? All these designated funds are perpetual memorials of the givers. And the twenty-five names among the benefactors of the Society show their interest created by this method of keeping alive their generous deeds.

The Society has in its collection 26,000 Indian artifacts of great value, 13,000 minerals, 20,000 books, and 5,000 other articles of interest on which only an insurance of \$10,000 can be carried from lack of funds. Suppose this fine institution should be struck with lightning and burned? Ten thousand dollars will be but a drop in the bucket to cover the great loss that would be created.

The present insurance costs the Society just \$100 for three years. Ought we not to do something to double this amount at once? Two hundred dollars for three years is only about

\$68 per annum and it would seem a paramount duty to double the insurance at that rate to \$20,000. Will you not immediately authorize the Treasurer to take this necessity into consideration and act promptly?

Then the Rev. Jacob Johnson Fund, created by the gift from our late Treasurer, Dr. Frederick C. Johnson, of the entire edition of his "Wilkes-Barre Historical Record", in memory of his ancestor, the founder of the Presbyterian Church in this County, and which fund has now reached the sum of \$1,000 invested in mortgages, gives promise of being increased to \$1,500 by the sale of the remainder of the material donated to the Society for that purpose. This remainder consisted of about fifteen incomplete sets of the Record which the Society has been enabled to complete by reprinting the first number of the first volume, and is thus fortunate enough to be able to offer to the public that many additional sets to secure the needed \$500.

These Historical Records have charmed every one who has read them, and not one member who has invested in them will be found willing to part with them. But they need to be examined and read to realize what a mine of local history they contain. The Librarian makes a most earnest appeal to the reading public, especially those who are members of the Presbyterian Churches of the Valley, to examine and purchase the few remaining volumes as a matter of personal pride, and in honor of the first settled clergyman of Wyoming who stamped his individuality so distinctly on the religious life of this section by his nearly thirty years of earnest pastoral life in Luzerne county, the only Clergyman ministering to the multitudes here during all those years.

This Historical Record was published in fourteen volumes and was sold by Dr. Johnson for \$21. When he donated the entire edition to the Society the price was fixed by him at \$15 for the fourteen volumes. These fourteen volumes, bound in five volumes, in handsome buckram at the small price of five dollars, makes the cost to the buyer only \$20. They will repay any one who can spend that amount in adding these books to his library, and he will receive a full financial return for the outlay in the pleasure they will give.

In speaking of the enlarged endowment, let it be remembered that the annual interest of \$67,000 at 5 per cent. will

only be \$3,500, and with an ever increasing library and cabinets, with curators to compensate, and papers to be secured for the meetings, with books to be bound as well as purchased, with insurance and salaries to be paid, this income is surely little enough to keep up the largest Historical Society in the State of Pennsylvania, outside of Philadelphia.

The Society has held the four regular meetings during the past year required by the State law, which requires the County to donate to our treasury \$200 annually, in the month of January; that sum for 1916 having been placed in the treasury through the librarian on the 13th of the past month.

At the annual meeting on February 11, 1915, the officers of the previous year were re-elected, except the Senior Vice President, which office was vacated by the death of our honored member—Rev. Henry Lawrence Jones, S. T. D. His place was filled by the choice of Hon. J. Butler Woodward, who was elected Senior Vice President, and whose great interest in the Society was manifested during the past year by the addition of twelve new annual and life members.

The reports of officers were also read and several members were elected, and we were also deeply interested by an unpublished chapter from his "History of Wilkes-Barre", read by special request by Oscar Jewell Harvey, Esq., the Historiographer of the Society. It was entitled "At the Threshold of the Second Pennamite and Yankee War, 1783."

The quarterly meeting, April 16, 1915, was called to consider the financial condition of the Society with a deficit in the treasury of several hundred dollars. Plans to overcome the deficit were presented for consideration and approval.

The third quarterly meeting, held October 8, 1915, was devoted to hearing an interesting account from a diary of a young Philadelphian of a visit he paid to Wilkes-Barre in 1840. The diary was read by George R. Bedford, Esq., who added to its interest greatly by personal reminiscences of those early days and other comparisons of local history. The reader was warmly thanked and the diary referred to the Publishing Committee, to appear in the forthcoming volume fifteen.

The fourth quarterly meeting was held December 10, 1915, to hear another very interesting historical paper, being the report of the anniversary meeting of the Society held in the rooms of the Society on Franklin street, in the third story of the old Miners Bank Building, February 11, 1859. The programme of the exercises for that day extended from morning to night, the evening meeting occurring in the old Fell House in the room where Judge Fell made his experiment of burning anthracite coal in a domestic grate. The toasts at the morning meeting were responded to by such public men as Volney Maxwell, Esq., Rev. Dr. Peck, Dr. Charles F. Ingham, Judge Edmund L. Dana, Caleb E. Wright, Esq., Col. Hendrick B. Wright and Judge John N. Conyngham, all of whom have passed away. Mr. Bedford also read a most interesting letter, published in the Philadelphia North American of September, 1859, giving an account of a visit made to Wilkes-Barre and the Wyoming Valley in that year, referring to the then nearly completed court house on Public Square as a "handsome fireproof temple of inland litigation."

He spoke of the general business depression then in evidence in the valley and expressed a hope that conditions might be improved when an adequate protective tariff should be put into effect. Both of these papers were generously interspersed with illuminating historical comments by Mr. Bedford.

The unanimous vote of thanks to Mr. Bedford followed the reading of these papers and the papers were referred to the Publishing Committee for production in the next volume, fifteen, of the Society. At each of these meetings members were elected and business transacted for the advancement of the Society.

At the December meeting the Corresponding Secretary announced the generous gifts of Mr. Abram Nesbitt and Mr. John Welles Hollenback. Mr. Nesbitt's gift of \$8,000 and Mr. Hollenback's of \$2,000, with Mrs. Richardson's contribution to the Charles Miner Fund of \$500, with the life memberships increased the Endowment Fund to \$68,000. Can we not make it \$70,000 during the present year?

SOCIETY'S NEW MEMBERS.

During the past year the following persons were elected to the membership of the Society in the specified class:

BENEFACTORS.

Mrs. Elizabeth Miner (Thomas) Richardson, Boston.
 Abram Goodwin Nesbitt, Kingston.
 Abram Nesbitt Smythe.
 Samuel Nesbitt Smythe.
 Mrs. Sarah (Nesbitt) Smythe.
 Mrs. Emily (Hollenback) Taylor.
 Miss Anna Hollenback Taylor.

LIFE MEMBERS.

*Rev. Henry Lawrence Jones, S. T. D.
 John Markle, of Jeddo.
 Henry Haupt Derr, Jr.
 Albert D. Shonk, Plymouth.
 George Shoemaker, Kingston.
 Mrs. Fanny Vaughn (Loveland) Brodhead.

ANNUAL MEMBERS.

James Cool.
 Edmund Jayne Gates, Wilkes-Barre.
 Mrs. Ellen (Brisbane) Harding, Wilkes-Barre.
 Robert Harvey, Wilkes-Barre.
 *William N. Jennings, Wilkes-Barre.
 Harry C. Miller, Wilkes-Barre.
 Edward Wheeler Parker, Wilkes-Barre.
 Bruce Payne, Wilkes-Barre.
 Col. William Carroll Price, Wilkes-Barre.
 Edwin Shortz, Jr., Wilkes-Barre.
 William Sharpe, Wilkes-Barre.

HONORARY MEMBERS.

Mr. Reuben Nelson Davis, Scranton.

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**Report of the Curator of Archeology for the Year ending
February 11, 1916.**

To the Officers and Members of the Wyoming Historical and Geological Society, Wilkes-Barre, Penn'a.

In the Department of Archeology and Ethnology of our Society the year just closed seems to have been more prolific of interesting results, as it has been in the eastern part of the United States, than has been the case for a number of years past. Students of the subject seem to be directing more attention to this field than they have done heretofore.

On October 15, 1915, a bronze tablet was dedicated at Sunbury (Shamokin), Pa., to Shikellamy, the "half king" or vice-regent of the Iroquois, who, for a number of years represented their interests among the surrounding Algonquins and with the Colonial government of Pennsylvania.

The ceremonies of the unveiling of the tablet were under the auspices of Fort Augusta Chapter, D. A. R., in conjunction with the Pennsylvania Historical Commission.

The boulder on which this tablet is mounted was quarried from the mountains of Luzerne county near Wapwallopen, and was secured through your curator of archeology, who also had a part in the ceremonies of dedication.

On the same date several tablets were unveiled at Selins Grove, a few miles from Sunbury, commemorating the massacre of white settlers by the Indians at Penn's Creek in 1755, an incident in the French and Indian War.

In April, 1915, Mr. E. H. Gohl, of Auburn, N. Y., discovered an old Indian village site at the north end of Lake Owasco, near Auburn, which has attracted widespread attention.

Representatives of The National Museum at Washington, D. C., Harvard, Pennsylvania and Yale Universities, The Museum of Natural History, New York City, Arthur C. Parker, State Archeologist of New York, and a number of others have visited the location, and all concur in classifying the implements and other things found as pure Algonquian, while the locality is in the heart of what is known as Iroquoian territory.

Mr. Parker, in an interview given the Auburn Advertiser, says: "The small village which was occupied for some period of time by members of the Algonquian nation is undoubtedly the basis for the discoveries. It is not possible to tell just what tribe of the Algonquins dwelt near the lake, but it must have been one similar to those which inhabited the region about the Susquehanna and the Hudson."

"The importance of the discoveries lies in the fact that the find affords a connecting link between the Algonquins of the Susquehanna and the Delaware as well as the Indians whose territory stretched westward along the Genesee and into Pennsylvania. The nearest discoveries of a like nature are those made at the southern end of Canandaigua Lake."

Some of the authorities place the date of the occupancy of this site as far back as five hundred years, probably prior to the time when the Iroquois selected this ideal location as the seat of their compact and powerful Confederation.

Another discovery of unusual interest in the past year was a village site, which is believed to be very old, on Rancocas creek, near Moorestown, N. J., east of Camden.

The attention of the University of Pennsylvania was called to this discovery, and explorations were carried on during a large part of the summer, under the direction of Mr. George L. Harrison, son of a former Provost of the University. From a preliminary report upon the implements and other things found, they seem to be of peculiar types, differing considerably from those previously found in New Jersey and Eastern Pennsylvania.

Further attention will be given to the locality by the University and a full report will be issued on it at some future time.

Special mention is made of these two discoveries, because they are in territory not far removed from our own region, and further investigations may show them to be related to the early inhabitants of the Susquehanna Valley, through similarities in the artifacts found, and thus help to solve some of the problems which puzzle the student of our region.

We have secured for this Society within the past few weeks a number of rare and unusual Indian specimens, collected along the Susquehanna, between Rupert and Northumberland, Pa., principally from the vicinity of Danville.

Many of these differ materially in their features from anything which the writer has previously seen in the region, and thus we add valuable material to our already large exhibit of the Susquehanna watershed.

They include (a) twenty stone and clay pipes, among them three of the "effigy" type—a large bird with outstretched wings, a frog modeled in the round, some kind of an animal (frog or monkey), in relief, grasping the bowl of the pipe with its four legs, two "Monitor" pipes, extremely rare in this locality, and a number of clay pipes, differing very much from any pipes which I have seen in this region.

(b) A number of "Gorgetts" or ceremonials, some with two and some with three perforations, not common.

(c) Several dagger like weapons or implements sharpened to an edge along the blade and pointed on one end and with a handle on the other. They are $11\frac{3}{4}$ and $10\frac{3}{4}$ inches long, respectively. They seem to be unique.

(d) A stone pick sharpened to a point on both ends with a groove around the middle for attaching a handle, an unusual specimen.

(e) Three almost complete shallow soapstone bowls with handles. These are $13\frac{1}{2}$, 10 and 9 inches long, respectively. These are so rare that our Society has but one whole specimen, found in Wyoming Valley.

One crude grooved axe 11 inches long, besides a number of other not common pieces.

A number of these articles were found on the grounds of the State Hospital at Danville, Pa., which tradition says was an Indian village and burial ground. Many of them have the appearance of being very old, differing in this respect from most of the artifacts found along the Susquehanna.

These acquisitions are a large part of the rare and scarce specimens in the collection of Mr. Charles M. Johnston of Danville, Pa., which he has gathered during the past thirty years, and, so far as I am acquainted with the collections in the Susquehanna Valley, I do not know where they could be duplicated.

If our members could know of the complimentary and commendatory things which have been said about the

Society in all its departments during the past year, they would appreciate more fully the place which The Wyoming Historical and Geological Society is coming to hold among similar societies in our own State and throughout the country.

I cannot refrain from saying at this place that I feel that the continued and enlarged growth of the Society is due in largest measure to the loyal and unsparing manner in which our Corresponding Secretary, Rev. Horace E. Hayden, gives himself to its best interests, and that an expression of appreciation of his efforts by our members will cheer and encourage him in his work as the years pass.

Respectfully submitted,

CHRISTOPHER WREN,
Curator of Archeology.

February 11, 1916.

Treasurer's Report

Of the Wyoming Historical and Geological Society,
Year Ending December 31, 1915.

RECEIPTS.

Balance on hand, January 1, 1915—	Check Account	\$ 393.63	
	Savings	"	3,514.07
			<u>\$ 3,907.70</u>
Membership dues			735.00
Income from Investments			2,701.25
Investment Account, Investments Paid, etc.			3,625.17
Life Memberships			300.00
Luzerne County Appropriation			200.00
Rev. Jacob Johnson Fund			232.23
Bills Payable			<u>600.00</u>
Total Receipts			\$12,301.35

EXPENDITURES.

Salaries		\$ 2,680.75
Incidentals		120.00
Telephone		30.00
Insurance		100.00
Interest on Specials Funds		1,249.50
Books		100.00
Sundry Expense		99.73
Binding Account		73.38
Investment Account		<u>4,000.00</u>
Balance—Check Account	\$ 176.52	
Savings Account	3,671.47	
		<u>3,847.99</u>
		\$12,301.35

SECURITIES IN HANDS OF TREASURER, DEC. 31, 1915.

BONDS AND STOCKS.

Pacific Gas & Electric Co., 6%	\$ 500.00
People's Telephone Co., 5%	1,000.00
Frontier Telephone Co., 5%	1,000.00
Scranton Gas & Water Co., 5%	5,000.00
Wilkes-Barre Company, 5%	1,500.00
Muncie & Union City Traction Co., 5%	1,000.00
United Gas & Electric Co., 5%	1,000.00
Columbia & Montour Ry., 5%	1,000.00
Webster Coal & Coke Co., 5%	4,000.00
Canton-Akron Railway Co., 5%	1,000.00
Minneapolis Gas Light Co., 5%	1,000.00
Spring Brook Water Supply Co., 5%	11,000.00
Plymouth Bridge Co., 5%	6,000.00
Sheldon Axle Co., 5%	2,000.00
Indianapolis, New Castle & Eastern Tr. Co., 6%	1,000.00
Lackawanna & Wyoming Valley Rapid Transit Co., 5%	1,000.00
Eastern Wisconsin Railway & Light Co., 5%	1,000.00
The Raeder Blank Book Lithographing & Printing Co., 5%	8,000.00
Twenty shares stock Hazard Mfg. Co.	<u>1,000.00</u>
Total bonds and stocks	\$49,000.00
Seven mortgages, 6%	\$11,700.00
One mortgage, 5½%	<u>2,600.00</u>
	14,300.00

Total investments at par value \$63,300.00

Respectfully submitted,

C. W. LAYCOCK,
Treasurer.

**Report of the Corresponding Secretary and Librarian for the
Year ending February 11, 1917.**

*To the President and Trustees of the Wyoming Historical
and Geological Society.*

GENTLEMEN: In presenting my annual report I have the very great privilege and pleasure of announcing to you that we begin this fifty-ninth year of this Society with the assurance that we are to-day a self-supporting Society. A retrospective glance will enable us to appreciate this fact with unusual gratification and thankfulness.

On this day, February, 1858, this Society was born, with marked promise of a successful future. The first anniversary of the organization was celebrated with a most enthusiastic meeting, the record of which was read to us by George R. Bedford, Esq., December 16, 1915. It shows that popular addresses were made before a large audience by such members and speakers as Rev. Dr. Peck, Judge E. L. Dana, Col. John B. Conyngham, Volney L. Maxwell, Esq., Dr. C. F. Ingham, Caleb E. Wright, Esq. The account of the day's attendance is thus given by the daily paper of that period:

"An eager crowd from early in the forenoon until late dinner time poured up the stairs of the hall and showed by their numbers the interest excited in town, and by their pleased and surprised countenances how well they considered the public repaid and deservedly earned."

Two years after this date the Civil War began and for the four following years the Society had a more or less fluctuating record. In 1859 General Ross presented the Society with "near 10,000 objects", according to the minutes. This gave the organization a character that invited other gifts and additions were made to the library and cabinets by others, and the activities do not seem to have lessened to any extent as shown by the minutes, until 1870. Meanwhile the Society had accumulated no reserve fund or endowment. But in January, 1870, a special circular was issued to the members and signed by such persons as Hon. J. N. Conyngham, Hon. E. L. Dana, Dr. Charles F. Ingham, Dr. E. R. Mayer, and others, calling a meeting for the twelfth anniversary of its organization in the following strong words:

"If the old men of the Society are becoming mentally and physically infirm, are there not young men in our midst who will strive to give new life to the institution. At least, let us all come prepared to give the Society decent burial."

This appeal had a marked effect, resulting later in the determination to acquire a permanent home and endowment for the organization. The Town Council was asked to donate to the Society a proper site for the proposed home. The response to this appeal was the gift to the Society of the old graveyard on Market street, now occupied by the handsome City Hall. Also a popular subscription was taken to secure the financial part, with the result shown by the minutes of February, 1871, when subscriptions were obtained from thirty-two members to the amount of \$5,350. Why this venture failed of realization the minutes show. But they do not record any endowment for the perpetuation of the Society until 1894, of which we will speak later. Meanwhile a new factor arose in the Society to whose indefatigable industry, intense interest, and whole-hearted devotion, the Society will ever owe a debt that cannot be paid except by making the Society permanently independent. I refer to that unusual man and student, Harrison Wright, A. M., Ph. D., who had graduated with honor at Heidelberg, Germany, and had become a member of the Luzerne County Bar. Independently wealthy, trained in scientific and historic lines, versatile, enthusiastic, attractive personally beyond the ordinary, he entered into the spirit of the Society indicated by its name "Historical and Geological", with zeal.

In 1873 he was elected to the office of the Recording Secretary, when he associated with himself such active and enthusiastic members as Charles F. Ingham, M. D., and Sheldon Reynolds, Esq., both men of leisure and students. They immediately gave new inspiration to the Society. From 1872 to 1885, a period of thirteen years, Dr. Wright was the soul of the organization, which increased greatly in members, in influence, and in effective work. His death in 1885 was a most grievous loss to the organization. The burden of the work then fell on Dr. Ingham and Mr. Reynolds, who in 1892 disposed of the lots donated to the Society by the City for \$4,500, and thus secured the first endowment for the purposes of the work. In 1894 Mr. Reynolds and the present Librarian increased this amount by securing thirty or more Life members, to the sum of

\$8,000. Dr. Ingham died in 1890 and Sheldon Reynolds, Esq., in 1895, a loss to the Society second only to that caused by the death of Dr. Wright. Meanwhile the generosity of Mr. Isaac S. Osterhout, who in founding the Osterhout Free Library provided a permanent home for this Society, resulted in the erection by the Library Trustees of the present handsome building occupied by its Library and collections. This has enabled the organization to maintain itself with credit and honor until to-day, the twenty-third year since the loss of its master hands, the endowment of \$8,000 had grown to over \$82,000, mainly by the generous gift of Mr. Abram Nesbitt, of Kingston, who during the past two years had added to our treasury over \$20,000, and others have given largely according to their means. In addition to this important and essential foundation of success the Society numbers among its 400 members 330 Life members at \$100 each.

One of the most important assets of the Society secured in its fifty-nine years of life is its publications, without which no organization of the kind can have permanent growth. The first title issued from our press was the valuable paper on "Mineral Coal," written and delivered before the Society in February, 1858, by Volney L. Maxwell, Esq. Nothing further issued from our press until the beginning of Volume I in 1881, followed by eight other similar papers in 1882, 1883 and 1884, Vol. 2 in 1885, and Vol. 3 in 1886. After this the press of the Society was silent until 1896, when Volume 4 was published by the present Librarian, followed during the succeeding twenty years by Volumes 5 to 14, with Volume 15 now in the press. These volumes are to be found in most of the United States Historical Society Libraries. One other very important help in developing this Society has been the Pennsylvania Federation of Historical Societies, organized at Harrisburg in 1905, with twelve local societies, of which this Society was one. Before our Society was born there were but five such organizations in this State. The oldest being the American Philosophical Society of Philadelphia, began 1744, the second being the Historical Society of Pennsylvania, organized 1824. For many years, even after this Society began its existence, it was the desire of the Pennsylvania Society to have all local Societies made adjuncts to its charter.

This Federation was promoted by the Philadelphia

Society. To-day forty-five such Societies compose the representation of the work in the Federation, the twelfth meeting of which was held last month. This meeting was most gratifying in its increasing numbers and the fine spirit manifested. The State will take special interest in the work of the Federation and a liberal support is promised. This Federation will in time so promote the study of local history as to develop a local Society in every county.

America is fully three hundred years old; the first settlement in New England, from which we descended, began 1620. The present generation can hardly realize that it has been only within the last thirty years that we of the United States have awakened to the fact that America had any history worth presenting to the coming generations. Only within that period have our American Colleges and Universities been aroused to the necessity of establishing a Chair of American History for instructing their pupils in this liveliest of secular subjects. The matter has been for so many years left entirely to authors, whose works since Bancroft's time have been voluminous. Now I believe it is taught in most American institutions of learning.

The Library of this Wyoming Historical and Geological Society is growing slowly, but with great care in selection. It is exclusively a Society of American History, Geology, Ethnology and Genealogy. We desire to impress on the public mind this fact. The Scranton and Osterhout Free Libraries no longer add to their treasuries the special books kept by this Society. The Scranton Library of 50,000 is, like this Society, a United States Depository for every title issued by the United States Government, but it is, with this Society, the only place in northeastern Pennsylvania where public documents are kept. They include, apart from the ordinary public reports, all the legal documents and publications issued by the Government. The Scranton Library refuses to keep genealogical works, of which we have about 1,000 volumes, but she keeps a full catalogue of the titles on that subject in this library and sends inquirers here for study. Thus both libraries are made useful without duplication.

It does seem important that the dwellers in this part of the State should know that this Society Library is a really Public Library. Not a FREE library, as that involves *circulation* of books. There was a strong desire on the part of

some when the Osterhout Free Library was started and this Society library was provided with a separate building to make both libraries somewhat exclusive, the Osterhout Free Library to Wilkes-Barre City and the Historical Library to its members. But that proposition failed. This Society made such a plan impossible years ago, when it secured the passage of a law by the State Legislature requiring the Public Printer to supply every historical and public library in the State with a copy of every title issued from the State printing press. Also by accepting the appointment by the United States Government of this Society as a public depository, both of which actions committed this Society to open its library to the public. Of the 20,000 books in this library fully 5,000 are government documents and are constantly called for by students.

The Society has during the past month subscribed to the Index of the New York Times, covering the contents of that valuable paper for the years 1913, 1914, 1915 and 1916. There are only two sets of this Index in this part of the State, and as they are invaluable for reporters of the papers and for students especially, of our public schools for essays and debates, the volumes are accesible to all who may wish to use them each week-day from 10 a. m. to 5 p. m. We warmly encourage their use, and if they do not appeal to the students and reporters of this section the Society will not subscribe for them after 1917.

During the past year the usual four meetings required by the State law of all Societies receiving county financial aid have been held. The first of these was the annual meeting held February 11, 1916, at which the annual reports of officers were read and Mr. Alfred Franklin Berlin of Allentown delivered his lecture on his unusual collection of American Ethnology, which has so long graced this Society. This collection the Society purchased in , and the address of Mr. Berlin, illustrated, will form the first paper in Volume XV, to be issued this year.

The second meeting of the Society was held April 14, 1916, when General Charles Bowman Dougherty read a most interesting paper entitled "The Reminiscences of General Isaac Jones Wister, U. S. A.," who was once President and Vice President of the Susquehanna Coal Company. The paper having double interest by giving his "Diary of a Trip Through Wyoming Valley, 1884."

The third meeting of the Society was held October 13, when business was transacted and members elected.

And the fourth meeting, of December 15, was held to listen to a paper read by George R. Bedford, Esq., on "Reminiscences of Wilkes-Barre by a Visitor in 1848," rich in its description of the valley and still more enriched by the recollections of the reader. At this last meeting the Society was delighted by the report of the generous gift of \$12,000 to the endowment fund by Abram Nesbitt, Esq., and \$1,000 from Mrs. C. D. Foster.

The Society is now unique as a "Historical and Geological Society", in that it covers all that is understood in these two names and its library, by purchase and exchange, contains nearly all the publications of fully 200 of the Historical Societies of the United States and Canada, with every magazine of Genealogy, besides the annual publications of fully sixty State Geological Departments and Scientific Societies. No such library probably exists in the State of Pennsylvania. The enlargement by the Trustees of its annual book allowance will in the future greatly enrich this literature.

During the past year the Library has been increased by the addition of 800 bound books, with many pamphlets. This included 200 books bound for the Society, for which the Hunlock Fund contributed \$50, Miss Anne Wright \$50, and the Librarian earned \$100 by sale of duplicate books. The Trustees have appropriated a special fund for binding purposes during the present year, 1917.

Mr. Nesbitt and Mr. John Welles Hollenback by their generous gifts have added to our list of Benefactors.

Mr. Abram Goodwin Nesbitt.

Mr. James Nesbitt, Jr.

Mrs. Mary (Shupp) Nesbitt.

Mrs. Sarah Myers (Goodwin) Nesbitt.

Mrs. Sarah (Nesbitt) Smythe.

Mr. Abram Nesbitt Smythe.

Mr. Samuel Nesbitt Smythe.

Mrs. Emily Hollenback Taylor.

Miss Anna Hollenback Taylor.

These names, with additions of Mrs. Charles Dorrance Foster and Mrs. Elizabeth Miner (Thomas) Richardson increase the number of Benefactors to thirty-four, making

the number of Life Members 231 and the annual members 180, making a total of 410.

During the past year the following Annual members have been added:

Lawrence Bullard Jones.

L. MacLean Wilson.

Eight members have been added to the Life List.

LIFE MEMBERS.

George Brubaker Kulp.

Miss Augusta Hoyt.

John Dorrance Hoyt.

Martha (Goodwin) Hoyt.

Abraham Goodwin Hoyt.

Edward Everett Hoyt.

Mrs. Anna (Miner) Oliver.

During the past year the following members of this Society have passed away from this life into the Life Eternal:

LIFE.

Andrew F. Derr.

Mrs. Mary D. (Fell) Derr.

Miss Juliette Genevieve Hollenback.

Mrs. Anna (Miner) Oliver.

HONOURARY.

Hon. Samuel W. Pennypacker.

Hon. John Gosse Freese.

Rev. James J. Pierce.

ANNUALS.

Col. Eugene Beauharnais Beaumont, U. S. A.

Mrs. Frances D. Lynd Wadhams.

BENEFACTOR.

Eckley B. Coxe, Jr.

**Report of the Curator of Archeology for the Year ending
February 11, 1917.**

*To the Officers and Members of The Wyoming Historical
and Geological Society, Wilkes-Barre, Penn'a.*

During the year 1916 the occurrence of greatest interest in our local Archeological field was an expedition conducted by Mr. Warren K. Moorehead, of Phillips Academy, Andover, Mass., and Mr. Alanson Skinner, of The Museum of The American Indian, New York City (formerly the George G. Heye Museum).

The object of the expedition was a survey and mapping of the Indian remains, camp and village sites, etc., on the North Branch of the Susquehanna river and its principal tributaries, the West Branch and the Juniata rivers.

Besides Messrs. Moorehead and Skinner the party consisted of Mr. Ernest O. Sugden, surveyor, four Maine woodsmen and watermen, who handled the boats, kept camp and did excavating and exploring, and the son of Mr. Moorehead, who was on his vacation from college. The Rev. Dr. George P. Donehoo, Secretary of The Pennsylvania Historical Commission, was also with the party during a portion of the trip.

They were equipped with four specially large Indian canoes, a complete camping outfit to take care of themselves out of doors, a photographic outfit, and everything to live independently of the country through which they were traveling.

It was the most extensive party which has ever attempted an exploration of the Susquehanna Valley, the cost of maintenance being \$30.00 per day, borne jointly by the institutions which they represented.

The expedition started from the headwaters of the river at Lake Otsego, N. Y., of May 15, but the first month they were out was so unusually rainy that nothing was accomplished until they reached Athens, Pa.

On the west bank of the Chemung river, opposite Athens, on the farm of Mr. Millard P. Murray, a large Indian burial ground was located and more than forty bodies were uncovered. Besides these bodies a number of Indian implements were found, including fragments of pottery and those of stone, which seemed to be of a very early date.

Mr. Skinner told me that they found three of the stone notched disks, illustrated in our Volume No. XIII, used on the pottery vessels as covers. This seems to be the first positive evidence which we have that they were at times used for this purpose.

The expedition moved rapidly down the river from Athens, reaching Wyoming Valley on June 29, and making camp on the river bank below the town on Shawnee Flats at Plymouth.

They spent four days at Plymouth and then went down the river to Chesapeake Bay. Some of the party made a short trip up the West Branch from Sunbury as far as Lock Haven by railroad.

While the party was at Plymouth the writer had the experience of going with Alanson Skinner and other members of the party along an old Indian trail crossing the mountain below Wananie, and exploring a rock shelter about three miles back from the river. We found evidences of Indian occupancy consisting of fragments of pottery, bones of animals which had been used for food, some flint chips and marks of fires. A fine spring was located near the ledge of rocks from which they got their supply of water.

Mr. Skinner has had much experience in exploring rock shelters on Manhattan Island and at other points about which he has written.

The work of the expedition was not as productive of results as it was hoped it would be, as no great amount of material was secured, but they did make a preliminary view of the field they traveled over.

Mr. Moorehead told me that it was the work of five years instead of a single summer to cover the field as it should be done.

While at Harrisburg the Archeologists had a meeting with the Pennsylvania Historical Commission, appointed several years ago, and it is hoped that the result of their consultation will be an increased interest in the Indian history of our State and the establishment of a State Museum, similar to those in some other States, and which will be a credit to us.

The expedition closed its work in August at Harrisburg.

In the year just closed our Society has secured some rare and fine local artifacts that are valuable additions to our collections, which will be described at some future time.

It is becoming more evident as the years pass that our Society is doing pioneer work in the field of local archæology, which will be more appreciated in the lapse of time.

Respectfully submitted,

CHRISTOPHER WREN,

Wilkes-Barre, Pa., February 9, 1917.

Curator.

Treasurer's Report

Of the Wyoming Historical and Geological Society,
Year Ending December 31, 1916.

RECEIPTS.

Balance on hand, January 1, 1916, Check Account.	\$ 176.51
Savings " "	3,671.47
	<u>\$ 3,847.99</u>
Membership Dues	740.00
Income from Investments	3,848.85
Investment Account, Investments Paid, etc.	1,452.57
Life Memberships	1,200.00
Luzerne County Appropriation	200.00
Hon. Charles Miner (Historian) Fund	500.00
Total Receipts	<u>\$11,789.41</u>

EXPENDITURES.

Salaries	\$ 2,686.00
Incidentals	175.00
Telephone	30.00
Insurance	13.74
Binding Account	100.00
Interest on Special Funds	972.00
Interest	27.00
Books	50.00
Sundry Expense	121.11
Bills Payable	300.00
Investment Account	5,000.00
Balance—Check Account	\$ 490.52
Savings Account	1,824.04
	<u>2,314.56</u>
	<u>\$11,789.41</u>

ACTUAL RECEIPTS AND EXPENDITURES FOR YEAR 1916.

RECEIPTS.

Membership Dues	\$ 740.00
Income from Investments	3,848.85
Luzerne County Appropriation	200.00
	<u>\$ 4,788.85</u>

EXPENDITURES.

Salaries	\$ 2,686.00
Incidentals	175.00
Telephone	30.00
Insurance	13.74
Binding Account	100.00
Interest on Special Funds	972.00
Interest	27.00
Books	50.00
Sundry Expense, ...	121.11
Bills Payable	300.00
	<u>\$ 4,474.85</u>

Respectfully submitted,

C. W. LAYCOCK,
Treasurer.

SECURITIES IN HANDS OF TREASURER, DEC. 31, 1916.

BONDS.		Par.
Pacific Gas & Electric Co., 6%.....	\$	500.00
People's Telephone Co., 5%.....		1,000.00
Frontier Telephone Co., 5% (Certificate of Deposit).....		1,000.00
Scranton Gas & Water Co., 5%.....		5,000.00
Wilkes-Barre Company, 5%.....		1,500.00
Muncie & Union City Traction Co., 5%.....		1,000.00
United Gas & Electric Co., 5%.....		1,000.00
New England Power Co., 5%.....		5,000.00
Columbia & Montour Electric Co., 5%.....		1,000.00
Lackawanna & Wyoming Valley Rapid Transit Co., 5%...		1,000.00
Webster Coal & Coke Co., 5%.....		4,000.00
Canton-Akron Railway Co., 5%.....		1,000.00
Minneapolis Gas Light Co., 5%.....		1,000.00
Columbus, Newark & Zanesville, 5%.....		3,000.00
Chesapeake & Ohio Rwy. Co., 4½'s.....		4,000.00
Spring Brook Water Supply Co., 5%.....		11,000.00
Plymouth Bridge Co., 5%.....		6,000.00
The Raeder Blank Book Lithographing & Printing Co., 5%.....		8,000.00
Eastern Wisconsin Railway & Light Co, 5%.....		1,000.00
Sheldon Axle Co., 5%.....		2,000.00
Indianapolis, New Castle & Eastern Tr. Co., 6%.....		1,000.00
STOCK.		
Twenty (20) shares stock Hazard Mfg. Co.....		1,000.00
		<u>\$61,000.00</u>
Eight Mortgages, 6%.....	\$15,400.00	
One Mortgage, 5½%.....	2,500.00	
	<u>17,900.00</u>	
Total Investments at Par Value.....		\$78,900.00
The Charles Dorrance Foster Fund.....		1,000.00
Savings Account.....		1,824.00
Hon. Charles Miner (Historian) Fund.....		500.00
Dr. Frederick C. Johnson Fund, pledge.....		500.00
		<u>\$82,824.00</u>
Total Funds.....		\$82,824.00

C. W. LAYCOCK,
Treasurer.

GENERAL FUNDS, JULY 1, 1916.

1. George Slocum Bennett Fund	\$ 1,000.00
2. Hon. Charles Dorrance Foster Fund	1,000.00
3. Colonel Matthias Hollenback Fund	4,000.00
4. Dr. Charles F. Ingham Fund (minimum \$1,000).....	500.00
5. Rev. Jacob Johnson Fund	1,000.00
6. Dr. Frederick Charles Johnson Fund (minimum \$1,000)	500.00
7. Fred Morgan Kirby Fund	1,000.00
8. Hon. Charles Miner (Historian) Fund	1,000.00
9. Sidney Roby Miner Fund	2,000.00
10. Abram Nesbitt Fund	11,000.00
11. James Nesbitt, Jr., Fund	4,000.00
12. Mary S. Nesbitt Fund	4,000.00
13. Mrs. Sarah Myers (Goodwin) Nesbitt Fund.....	2,000.00
14. Captain L. Denison Stearns Fund	1,000.00
15. Dr. Lewis H. Taylor Fund	1,000.00
16. Edward Welles Fund	1,000.00
17. Life Membership Fund	22,700.00
18. General Fund	4,300.00
	\$63,000.00

SPECIAL FUNDS.

1. Colonel Zebulon Butler Fund, Ethnology	\$1,000.00
2. Coxe Family Publication Fund	10,000.00
3. Rev. Horace Edwin Hayden Fund, Geological Lectures	1,500.00
4. Andrew Hunlock Fund, Binding	1,000.00
5. Ralph D. Lacoe Fund, Palaeozoology	1,000.00
6. Augustus C. Laning Fund, Lectures	1,000.00
7. Hon. Charles Abbott Miner Fund, Geology	1,000.00
8. Sheldon Reynolds Fund, History	1,000.00
9. Hon. Stanley Woodward Fund, Historical Lectures...	1,000.00
10. Dr. Harrison Wright Fund, Heraldry	1,000.00
	\$19,500.00
General Fund	63,000.00
	\$82,500.00
Savings Account	\$1,824.00
Johnston Fund Pledge	500.00
	2,324.00
Total.....	\$84,824.00

EXPLANATION OF THE SPECIAL FUNDS.

It will be noticed that of the "Invested Fund of \$82,000, reported on page 30, fully one-fourth, or about \$19,500 is marked for special purposes, leaving only \$61,000 for general purposes. This is fully explained in Volume XII, page 20a. It is briefly referred to here for the benefit of members.

These Special Funds are all of private origin, given only for the purpose specified in the gift, hence could not be used for the current expenses of the Society, for which the remainder, \$61,000, is not sufficient if the Society expects to grow in usefulness.

Fund No. 1 was given by the heirs of Colonel Zebulon Butler exclusively (as a Memorial to that distinguished officer), and designated for the Ethnological department of the Society.

Fund No. 2 was given by the Coxe family of Drifton exclusively to provide for the annual Publications of the Society and cannot be diverted to other uses.

Fund No. 3 was created by Rev. Mr. Hayden to secure an annual Geological address before the Society.

Fund No. 4 was given by Mr. Andrew Hunlock to meet the very great need of binding books.

Fund No. 5 was created by the family of Mr. R. D. Lacoe and the Society to provide for the large Lacoe Paleozoic collection presented by that gentleman.

Fund No. 6 was given by Mrs. George Cotton Smith in memory of her father, Augustus C. Laning, Vice President, 1861, to provide annually an Historical address before the Society.

Fund No. 7 was designated by the givers, the family of Hon. Charles A. Miner, so long a Trustee of the Society, for Geological purposes.

Fund No. 8 was given by the immediate family of Sheldon Reynolds, Esq., President, 1895, to establish a Memorial library of rare American history.

Fund No. 9 was created by the sons of our honoured founder and President, Judge Stanley Woodward, also to provide an annual Historical paper to be read before the Society.

Fund No. 10 was the gift of the relatives of Harrison Wright, Ph. D., to whom the Society is so deeply indebted, to create a Memorial library of English heraldry and genealogy.

All the rest of the Funds of the Society are devoted to general purposes and contributed as such by individuals, except the Life Member Fund, which is created by the Life Members fees, all of which are invested.

There are other needs for which members are urged to contribute to meet the growing work of the Society, the only organization of its kind and importance in the State outside of Philadelphia. Why cannot members mention in their Wills gifts for the increase of these Funds and so perpetuate their own names by useful giving that will live after them?

IN MEMORIAM.

ECKLEY BRINTON COXE, JR.
1872—1916.

FOUNDER OF THE "COXE PUBLICATION FUND"
OF THIS SOCIETY.

Eckley Brinton Coxe, Jr., sustained the name and usefulness of one of the most distinguished families that this country has produced.

Dr. Daniel Coxe, of London, from whom he was directly descended, was in 1678 the proprietor of West New Jersey and of Carolina, which included all the territory between north latitude 31st to 36th parallels, and prepared the first general plan for a union of the colonies. He died 1686.

Hon. Tench Coxe, the great-grandfather, 1723-1801, was at the age of thirty-three a member of the Continental Congress, Assistant Secretary of the Treasury to Alexander Hamilton in 1789, filled many important posts until his death in 1824, and it was said of him that he "was never forgetful of the duty of exerting his peculiar talents for the good of his country."

Charles S. Coxe, the grandfather, was a Judge of the District Court, noted for its eminent Judges, and rendered, among others, a most important decision relating to the privileges of consular as distinguished from diplomatic officials recognized generally by writers on international law.

Major Charles Brinton Coxe, the father of the subject of this sketch, was the youngest of the five sons of Judge Charles S. Coxe, all of whom were men of unusual force of character and distinction. The eldest, Brinton Coxe, was one of the most learned lawyers of his day, as shown in his work on Bracton and his unfinished analysis of the Constitution of the United States. The second son, Eckley Brinton Coxe, Sr., an eminent mining engineer, born Philadelphia, June 4, 1839; died, May 13, 1895, was a Life



ECKLEY BRINTON COXE, JR.

Member of the Wyoming Historical and Geological Society, and a Vice President from 1884 to 1895, and a liberal contributor.

Major Charles B. Coxe, born February 4, 1823, died January 3, 1873, in Egypt, was a scholar of a high order having taken the highest rank in the University of Pennsylvania in the class of 1862, that included many of our most successful citizens, among them two provosts of the University.

His services in the army, having been Major of the Sixth Pennsylvania Cavalry, the only lancer regiment, were most conspicuous for bravery and unselfish devotion. He was equally popular with his fellow officers and men. Several of those in his company were long in the service of Coxe Brothers & Co., of which Charles Coxe was a member. He married Miss Elizabeth A. Sinkler, daughter of Charles Sinkler, of Eutawville, S. C., and his wife Emily, daughter of the late Thomas I. Wharton of Philadelphia.

Eckley Brinton Coxe, Jr., their only son, was born 1872. He was less than a year old when his father, Major Charles Brinton Coxe, died in Egypt. This event, with the circumstances attending it, was not without its effect in shaping the son's inclinations and achievements. Between the time when he was twenty-one and the time of his death, he made many journeys in Egypt, and his taste for Egyptology grew with his personal knowledge of the ruins in the Nile Valley. In 1904, after the Soudan had been reconquered from the Dervishes and made accessible to Europeans, he traveled through that country and visited Khartoun. During this journey he saw for the first time evidences of an ancient and unknown civilization, which he was later to be instrumental in bringing to light.

In 1907 the "Eckley B. Coxe, Junior, Expedition to Nubia" was sent out by the Museum. Excavations were conducted at several points during a period of four years, under the immediate charge of Dr. D. Randall-MacIver. The results of this expedition and of the publications based thereon were to give the world its first knowledge of an extinct civilization that had flourished in ancient Nubia, and to place in the Museum a fine collection illustrative of that civilization. At the time when that collection was first exhibited it was the only one of its kind in existence. Since that time other museums, guided by the work of the Coxe

expedition, have acquired similar collections, and thus the old Nubian culture, with its paintings and sculptures and inscriptions has been made widely known.

At the beginning of 1915 the "Eckley B. Coxe, Junior, Expedition" to Egypt went out from the Museum. Important concessions were granted to this expedition by the Egyptian government; a strong and efficient organization was formed for the purpose of working these concessions in the interest of science and of the Museum. This organization, with a splendid record of discovery already to its credit, was in full working order at the time of Mr. Coxe's death. The latest report from Mr. Fisher, written at the Ruins of Memphis and received the day before his death, lay under his pillow when he died.

In the field operations of this Egyptian work, as well as in its scientific bearings, Mr. Coxe took a deep personal interest. He visited the excavations in Egypt and Nubia, he followed closely the doings of the expeditions that bore his name, and he understood thoroughly the historical significance of the discoveries that were made under these liberal auspices.

In 1910 he was elected President of the Board of Managers of the Museum, a post which he held until the time of his death.

Mr. Coxe's interests in the Museum were by no means confined to the Egyptian expeditions. That particular interest may, indeed, be taken as typical of his larger participation in all of its activities. He entered into its labors with zeal, he shared its trials with a cheerful spirit, and he rejoiced with a heartfelt pride in the successful issue of its enterprises. In each person connected with its work he showed at all times the warmest personal interest, and by his fine sensibilities he won the affections of everyone.

Mr. Coxe, though not of vigorous frame, was full of determined energy and untiring in any work he undertook. Unlike many young men of independent means, he had but one object in life, which was to be useful, following the example of his great-grandfather.

Mr. Coxe did not limit his interest to educational fields, but every charitable movement appealed to him.

The Children's Hospital, the College of Physicians, the Orthopedic Hospital, many fields of work in aid of the

miners and their families in the anthracite coal region, and the Episcopal Diocese of Central Pennsylvania are only some of those that could be mentioned to which he has contributed on a very large scale.

There was a quiet, dignified reserve, with a gentleness of character, in Eckley Coxe rarely met with. Firm and decided wherever he had a positive view, it was always a pleasure to him to meet the wishes of those who appealed to him.

His generosity was not measured; but was indulged for the benefit of others, with little thought of himself. The concentration of wealth in the hands of such a man is productive of more good to the community than any possible distribution among many could produce.

His life was spent for the benefit of others, and he maintained a reputation without a blemish. To those who learned to appreciate his generous thought and to his immediate family his loss is irreparable.

He showed the value of inherited worth, and did not fail to sustain in every way what might have been expected of him."

[The above notice of Mr. Coxe was taken by special permission of Mrs. C. B. Coxe and of Dr. G. B. Gordon, Director of the Philadelphia University Museum from the Museum Journal of September, 1916, who also kindly loaned the portrait which graces this volume.]

At the Annual Meeting of the Wyoming Historical Geological Society, held February 11, 1917, the following action upon the death of Mr. Coxe was unanimously adopted:

"The Trustees of the Society have learned with great and sincere sorrow of the death of our benefactor, Eckley Brinton Coxe, Jr., the founder of the "Coxe Publication Fund", which occurred September 12, 1916, and we request the Corresponding Secretary to communicate with his mother, Mrs. Charles Brinton Coxe, our warmest sympathies in this sore bereavement. We also request that the Corresponding Secretary ask of Mrs. Coxe such a photograph of her son as she will prefer to be published in our next annual volume of Proceedings to issue this spring, with such a sketch of him as she will approve to accompany the portrait.

"The Trustees will also be very grateful if at some time Mrs. Coxe can present to the Society a portrait of our benefactor to be placed in the gallery of the Society."

In 1907, when Mr. Coxe was in Wilkes-Barre, he visited the rooms of this Society with the President, Major Stearns, and manifested unusual interest in its work. So that knowing the great need of the Society for a "Publication Fund" he promptly pledged himself for \$5,000 to create such a fund. His check for that amount was sent to the President on his return home. The importance of such a fund was so fully realized by the Coxe family that within the year, by the generosity of Mrs. Sophia E. Coxe, who gave the sum of \$1,000, and Mrs. Sophie G. Coxe, who added the sum of \$4,000, it was increased to the present sum of \$10,000. The names of these three members of the Coxe family will be found on the list of "Benefactors" of the Society.



“THE ALFRED FRANKLIN BERLIN COLLECTION” OF AMERICAN INDIAN ARTIFACTS IN THE POSSESSION OF THIS SOCIETY.

BY ALFRED FRANKLIN BERLIN.

READ BEFORE THE WYOMING HISTORICAL AND GEOLOGICAL SOCIETY,
FEBRUARY 11, 1916.

INTRODUCTION.

Prehistoric Archaeology as a science is still young and has but lately made good its right to claim recognition as a branch of the sciences. It is the most complicated of all stories, for in it is involved almost every science, and the history of almost every art and craft in which the human being has ever exercised himself.

The first effort to rend the veil which once covered the life of Prehistoric man, was made in Western Europe in 1774. It is true that numerous relics of *Genus Homo* were found before that time in this part of Europe; but they were merely looked upon as curiosities, and then laid away in some out-of-the-way corner and forgotten.

There came a time, however, when men began to look scientifically into the matter, and from then on mysteries were unveiled which caused the greatest amount of interest.

Doubters, learned scientists there were, who refused to believe the statements of discoveries made, and they treated the matter with indifference. They insisted that the so-called implements of flint said to have been made by some prehistoric race, were but stones naturally fractured.

“The world is indebted principally to M. Boucher de Perthes, to whom was erected a statue in Abbeville in 1908, for the great discovery of prehistoric man in the paleolithic, or rude stone period. He lived at Abbeville, on the river Somme, about half way between Paris and Calais. In 1841 he found in a sand-bank, then being worked at Menchecourt, a piece of flint, rudely fashioned to an edge and point which

excited his attention and wonder, for he asked himself, 'How could this stone have taken this form by any other than human intervention?' He continued his investigations at occasional intervals, chiefly in the excavations and fillings at Abbeville, and in the gravel which was being removed he found many of the same implements. In the year 1846 was published his first work on the subject, in which he announced his belief that these were implements made by human hands, and of the same age as the gravels in which they were found."

"This statement made but few converts; nevertheless, being an enthusiast, and pressing his belief always in season and sometimes, possibly, out of season, he came to be regarded as what would now be called a 'crank.'"

Dr. Rigollot, in 1853, was the first to make such examinations of the locality by which, finding the implements *in situ*, he became a believer in the new theory. M. Boucher de Perthes was no exception to the rule that prophets are without honor in their own country. At last, however, the tide turned in his favor, and the writer can not do better than to quote Sir John Lubbock, a banker, and brilliant scientist, himself one of the actors in this affair, who writes of the event: "In 1858 Dr. Hugh Falconer, a geologist, passing through Abbeville, examined the collection of M. de Perthes, and on his return to England called the attention of Mr. Joseph Prestwich, a wine merchant, Mr. John Evans, a paper manufacturer and antiquarian, and other English geologists, all brilliant scientists, to the importance of his discoveries. In consequence the valley of the Somme was visited in 1859 and 1860, firstly by Messrs Prestwich and Evans, and shortly afterwards by Sir Charles Lyell, Sir Richard Murchison, Messrs. Busk, Flower, Mylne, Goodwin-Austen, and Galton; Professors Hinslow, Ramsey, Rogers; Messrs. H. Christy, Rupert Jones, James Wyatt, myself and other geologists."

Mr. John Evans, in his "Ancient Stone Implements of

Great Britain," describes the same event: "they examined the local collections of flint implements, and the bed in which they were said to have been found, and, in addition to being perfectly satisfied with the evidence adduced as to the nature of the discoveries, we had the crowning satisfaction of seeing one of the worked flints still *in situ* in its undisturbed matrix of gravel, at a depth of seventeen feet from the original surface."

"The locality was also visited by the French savants who were especially qualified for such a scientific investigation. M. M. Mortillet, d'Acy, Gaudry, de Quatrefages, Lartet, Collomb, Herbert, de Verneuil, and G. Pauchet; Dr. Gosse of Geneva, was also an earnest and ardent investigator."

Mr. John Evans further says: "Indeed it turned out, upon examination, that more than one such discovery had already been recorded, and that flint implements of similar types to those of Abbeville, and Amiens had been found in the gravels of London at the close of the Seventeenth Century, and in the brick earth of Hoxne, in Suffolk, at the close of the Eighteenth, and were still preserved in the British Museum, and in that of the Society of Antiquaries."

After the visit of these learned scientists to the gravel pits just mentioned, and their acknowledgment to de Perthes of the correctness of his claim, similar finds were made in various other parts of Western Europe, and savants who before doubted his discoveries, came to take their position under the Frenchman's standard. Here then was born the new science of Prehistoric Archaeology, recognized since then not only as a science, but wherever and whenever it has been studied and understood it has been given dignity and importance and received an impetus which has elevated it to the rank of the most important sciences.

The literature of the subject is enormous, and no one, however omniverous his reading, could possibly learn and digest it all. The theories and opinions of the earlier

writers often conflicted, which caused the story of the primitive human's home-life, written too technically, and often in a quite unintelligible manner to become almost incomprehensible to the ordinarily educated reader.

An interesting legend, which the writer quotes from "Prehistoric Man and His Story," by G. F. Scott Elliott, M. A., B. Sc., and mentioned by a Mr. Waterman as current amongst the Diequeno Indians of California, follows: "These people were one day called to meet at a certain place to humbly and obediently listen to the Great Serpent. This snake, who had swallowed all learning, was going to teach them how to dance. But as he came coiling in through the roof, and kept on coming in with an apparently endless series of coil after coil, they became thoroughly frightened at the indefinite amount of him, and hastily set fire to him and the house."

After the interesting reports made by scientists of different nations of their discoveries, students began to search everywhere for the flint tools made by prehistoric people. They were not satisfied with scouring the earth's surface; but began digging underneath rock-shelters, and began exploring and excavating in many dry caves, and from both took a large amount of rare and interesting implements. From the lakes of Switzerland, and those of other parts of Europe upon which lived prehistoric lake dwellers many were brought to the surface. From tumuli, graves and shell heaps were also taken many specimens.

Many interesting books were written by men who made these discoveries, and who also in their explorations accumulated large private cabinets. One may mention here the collection of Dr. Gustav Klemm, who expended many years of time and energy in gathering what has been considered the best collection of objects of human culture in Europe. It became after his death the nucleus of a museum of universal ethnology at Leipsic, Germany.

Dr. Klemm, considering nature as the foundation of

culture, regarded with special attention those objects from its three kingdoms which furnished man the means of subsistence and action without further preparation, and which became the models of his earliest manufactures. Among these are the frost formed, water-worn and pierced tablets, immense deposits of which are found in many places, and which assume almost every shape, afterward adopted for tools in the stone age. To these are to be added hooked sticks, curiously twisted and knobbed roots, spiral vines, tubes of reed, combinations of wood and stone, thorns, teeth, bones, claws, hedgehog quills, shields and many other objects, a fine collection of which graced his celebrated museum. Other notable private collections were also gathered by such prominent archaeologists as Sir John Lubbock; Rev. William Greenwell; E. B. Tylor and Sir John Evans, Englishmen; Professor Worsaae, Denmark; Dr. Keller, Switzerland; Professor Sven Nillson, Sweden; Professor Mortillet, France; Professor Gastaldi, Italy, and many others less prominent. In fact a general interest was taken in the gathering and hoarding of them. Many museums in every part of Europe began to send out their representatives on exploring expeditions, who obtained many specimens for their respective institutions, and they now hold an enormous quantity of objects, not alone in stone and flint, rude and polished, but in gold, silver, bronze, copper and iron.

"To Denmark must be given," says Thomas Wilson in the "Report of the Smithsonian Institution, for 1888;" "the credit of the discovery of the existence of man on earth in the ages before history was written. The historic period proper of Scandinavia began about 1000 A. D. But for centuries before that time there had been made, frequently on stone monuments, and also in other ways, runic inscriptions, and the poetic legends of the early times of that country, called Sagas. The antiquarians of Denmark in the past century delighted in studying these Sagas. In this pursuit they discovered Kjoekenmoddings, the Danish name for kitchen

refuse, the dolmens, the polished stone hatchets, or celts, the beautifully chipped flint poignards, and the daggers, knives, spear and arrow-heads, for which that country has been so justly celebrated. They became impressed with the idea that these belonged to a more ancient race of people than that which had written the Sagas and had erected the runic stones. They were able, by their examination and study, to separate their implements found into three grand divisions, which they designated, respectively, the ages of stone, of bronze, and lastly of iron. These ages were found to have endured in these countries for a long period of time and came to a high perfection. Thomson published his memoir in 1836, announcing these discoveries. The conclusions were that the Kjokenmoddings were places of habitation of prehistoric man, or, at least, places occupied by him, and that the shells which formed the heaps were but the refuse from his kitchen. The pieces of flint and bone were his implements, the dolmens were his tombs, and the polished and beautifully worked flints were but his tools and weapons. They placed his earliest occupation of these countries at from three to four thousand years B. C., and continued it down through the epochs of the different ages until that period when the written history of their country began."

"Public attention became attracted to the subject of prehistoric man by Dr. Ferdinand Keller in 1853, when he discovered in Lake Zurich the remains of the Swiss lake dwellers of prehistoric times. He found the same ages of stone, bronze and iron as have been found in Scandinavia. Other men took up the investigation, and finally the opening of the canal between Lakes Bienne, Neufchatel, and Morat not only brought to light the great deposit of the iron age at La Tene, but so lowered the waters in the two former lakes as to expose their shores, and to turn loose upon them an army of seekers after the implements of prehistoric man."

It may interest my readers to know what scientists of the different countries in Europe have done to place the science of prehistoric anthropology on a broad and firm foundation.

"The department of prehistoric anthropology in the British Museum has for its curator an eminent man of science, who receives a salary of £1,500 per annum, equal to \$7,500."

"The museum of the Irish Academy of Dublin possesses a greater value in prehistoric gold ornaments alone than it has cost the United States for our entire museum, with all its specimens, services, management and furniture."

"The Prehistoric Museum of Antiquities at Edinburgh, Scotland, is also extensive. It is devoted exclusively to the antiquities of its own country, and forms a complete museum in itself."

"The Prehistoric Museum at Copenhagen is so extensive and so rich that it might be classed as one of the wonders of the world. It occupies the entire palace of the Prince, has eight exhibition halls, with a full corps of professors, curators, etc., who occupy the highest ranks in the science. The riches of this museum are almost beyond computation; resting there are ten thousand polished stone hatchets, and axes, the contents of eleven workshops, one alone of which furnished two hundred hatchets, fifty-eight tools for drilling, four thousand scrapers, one thousand four hundred and twenty-six arrow-heads, *trenchant transversal*; fifty-one cases of bronze implements and armaments; and gold objects so numerous and valuable, that, though kept on exhibition during the day—under lock and key of course—are taken out each night and stored for safety in an immense steel safe."

"Stockholm, Sweden, has a national museum devoted entirely to prehistorics, for which the government has organized a bureau, and erected a fine museum building."

"The desire of the museum at Christiania, Norway, to keep its own antiquities, is so great that they refuse to exchange them with any other country."

Mr. Wilson further writes: "I need not mention the great prehistoric museums of Germany, that at Berlin, Munich and others dotted over the country in every city from the Baltic sea to the Alps; that at Paris; the great display in the museums of Switzerland, which was the home of the prehistoric dwellers on its beautiful lakes. Berne, its capital has three governmental prehistoric museums. In Geneva, Lausanne, Neuchatel, Constance, Zurich the people are industrious in gathering for their respective cities the remains of the prehistoric people who lived there ages ago."

"Many cities in Italy possess extensive museums in which are carefully kept the remains of prehistoric people. One may see them in Genoa, Pisa, Turin, Milan, Florence, Rome and many others. Turkey, Russia, Austria, Hungary, Poland and Spain are equally active in gathering the remains of the primitive people once living in these countries." In 1842, James Smithson, an Englishman, bequeathed to the United States of America the enormous sum of almost \$550,000 to found at Washington, D. C., an establishment for the diffusion and increase of knowledge among men, which was to be called the Smithsonian Institution. The bequest being only made for the educational benefit of mankind, and the government of the United States only named as a trustee to carry out the design of the testator, it rested upon Congress to bring about certain requirements in establishing the Institution. One of the conditions was to appropriate a part of the income annually to make ethnological researches, particularly with reference to the different races of men in North America; also to make explorations and accurate surveys of the mounds and other remains of the ancient people of our country. To also gather their implements and store them where they can be studied by those interested in them; and to publish annually original memoirs upon the material gathered. These *memoria*, which are now rare and almost impossible to obtain, were first published in quarto volumes as "Smithsonian Contributions to Knowledge," and began with the

monumental and authoritative work by Squier and Davis, the title of which is "The Ancient Monuments of the Mississippi Valley." Later on were issued as "contributions," such interesting productions as "Antiquities of Wisconsin," by Dr. Silas Lapham; "Antiquities of Tennessee," by Dr. Joseph Jones; "Antiquities of the State of New York," by E. G. Squier; "Prehistoric Fishing," by Dr. Charles Rau, and numerous other issues devoted to the same science not quite so voluminous.

The reports of the Smithsonian Institution, which began to be published in 1847, have, since then, been issued annually. These publications contain much that is of interest to the student of prehistorics.

Later on began the issuance of the reports of the "Bureau of Ethnology." These are also issued yearly, often in two parts. They teem with valuable archaeological matter from which the student inclined to this fascinating science can gain much information.

Then too are often issued, "Bulletins," by the same "Bureau" which contain matter of great scientific value.

Expeditions composed of experienced men under the auspices of the Smithsonian, which has lately been merged with the National Museum, are sent out into different sections of our country to obtain the remains of our aboriginal people, the result of which has been the accumulation of an enormous amount of prehistoric material, most all of which is now displayed for examination in the National Museum at Washington. Men outside of the influence of the Washington institution have written numerous books on the subject. Great museums in which are displayed the relics of prehistoric races are to be found in all of our large cities. Notable ones are the "Peabody Museum" at Cambridge, Massachusetts; at Andover, same State; the "Natural History Museum," at New York; the "Academy of Sciences," at Philadelphia; the New York State Museum, at Albany; that of the Davenport Academy of Sciences, Iowa, at St. Louis,

and smaller displays are shown in cities in every section of the United States.

This effort on the part of scientific institutions to gather for safe keeping the artifacts of prehistoric people tended to interest laymen, many of whom in course of time gathered for themselves very fine private cabinets in which can be seen specimens, some of which may be classed as unique. These will all in time find their way into some public museum, where they will be for all time carefully preserved.

The writer in his younger days took great interest in reading about the antiquities of our prehistoric aboriginal people, although at that time he made no effort to collect them. In 1874 while living at Reading, this State, he had the pleasure of meeting the late brilliant Dr. Walter J. Hoffman, then a member of the staff of writers and explorers connected with the Smithsonian Institution at Washington. Then began a friendship which was only ended when this talented man was called to his last account. Our minds in the matter of archaeological science ran in the same direction, and of the writer of this essay a scientific collector of American antiquities was soon made. In 1875 he had the pleasure of having come to him his first instalment of stone implements made by our aboriginal people. Encouraged through the kindness of the giver of these specimens, further efforts to become possessed of more was made. Short collecting tours were made to places which were once the encampments of the Red people. Correspondence with other collectors—not only of stone implements; but of natural history specimens—throughout the United States was solicited. With them were exchanged for relics of stone, butterflies, moths, land and water-shells and beetles collected in the writer's vicinity. And before many years had gone by there was brought together a cabinet containing many fine objects, a large number of which are now very rare, and not easily obtained. The result of this effort is now resting in your fine museum, and is known as the

“ALFRED FRANKLIN BERLIN COLLECTION.”

We are all aware of the fact that before the arrival of the Europeans upon our shores, there lived here a race of aboriginal and natural people who are known to have been hospitable to strangers when treated with respect ; but called savages by those who were only interested in dishonestly exploiting them, and who made of them the fiends and monstors which they afterwards became. In a study of the artifacts shown on the many plates in this work, and which the writer is about to describe it will be seen that none of them appear warlike. In the mind of the writer they were not intended to be used in the destruction of human life ; but in making their homes comfortable, in tilling their ground, in hunting, in preparing their clothing, and in the many ceremonial rites to which these primitive and natural people were addicted. The first to be described are those of their tools having grooves which have been picked up so plentifully in many parts of the United States and called *Grooved Axes*. These implements peculiar to the United States and Canada, and very nearly all made of a hard and tough stone, are taken from burial mounds, are picked up on the sites of old villages or encampments ; in cultivated fields, and also in relic beds. As before stated they are found in abundance, and a general use was made of them by our aboriginal people. Many of them show the roughest kind of use, and in some cases they are found having their cutting edges so often reground or resharpened that nearly the entire blade has been worn away. Cleverly hafted, they would in stalwart hands, and at close quarters, constitute a formidable offensive weapon, whether the blow be delivered from the edge or the head. They vary greatly in size. The smallest specimen in the United States, not quite an inch long is in the possession of Mr. H. K. Deisher of Kutztown, Penn'a. It is perfect and weighs little more than an ounce. The larger implements are often twelve or more inches long and weigh as much as thirty pounds. These monstrous

axes may have taken part in some aboriginal ceremony, while the smaller were amulets or talismanic. They may also have been the playthings of children.

Like the grooveless axes or celts they are found most artistically formed, and very often in perfect condition, while others exhibit the roughest kind of treatment.

In the making of the grooved axe it was necessary that a hard fine-grained and tough stone be sought for. A long experience in the nature of rock-properties taught the aboriginal workers in stone which rock would serve his purpose best in making an axe.

"Man," Professor Collie says in his: "Aboriginal Discrimination in the Selection of Materials for Tools," published in the *Wisconsin Archaeologist*, 1908, "learned by slow degrees and by experience the nature of rock properties. He learned to distinguish between different types of rock much as a modern geologist does in the field by taking account of two features, namely; (1) the mineralogical composition; (2) the texture of the rock. I do not mean to imply that early man was absolutely guided by the quality of the rock; other factors entered into the choice, but rock character was always a prominent factor. "All artifacts are the resultant of an interaction between several factors,—character of the rock, need of the worker, form of the blank selected, and skill of the worker. If the toolmaker was in a hurry for a utensil he would be likely to choose material easier to work than ordinarily would be the case,—material that he could shape hurriedly. If he were not skillful he would spend time to look for a blank that was a close approximation to the desired tool, that he might be spared the necessity of sharpening it with his unskilled fingers." This would often mean the selection of poorer material than might have been the case under different circumstances. "Primitive man," as a recent writer has pointed out, "had to exercise more real mental acumen and sagacity, had to be more agile and alert and bring into action more varied

qualities of mind and body in order to live, than the great mass of our present population. He used his mind and his judgment in the selection of materials, he weighed all the pros and cons in the choice of material for artifacts, just as he did in all the concerns of life. A prevailing notion that he picked up any old stray piece of rock that came conveniently to his hand is a mistake; his choices were results of purpose and intellectual efforts. To illustrate my position, allow me to select one type of tool, the grooved axe, and discuss the choice of materials for that particular utensil. * * * It must also be remembered that there are three general classes of rocks. Viz: the igneous, clastic and the metamorphic. The igneous rocks are of two general types, the coarser-grained intrusives, such as the granites, and their finer textured extrusives like basalts and their close relations the diabases, though the latter is often coarsely crystalline."

"In selecting material for axes the aboriginal employed both types of igneous rocks."

"Clastic rocks are of two general types, those deposited in solution from water and those deposited from mechanical suspension. Flint, chert, etc., are examples of the former, sandstone, limestone, etc., are instances of the latter. The aborigine really used this type of rock for axes. The metamorphic rocks are made from the two preceding types by heat and pressure. They have certain structural features, as a rule, such as cleavage and fissility. There is a banded arrangement of the material not due to deposition but to dynamic action; hence arises the familiar banded structure of such metamorphic rocks as gneiss and schist. This type of rock was used by early man for axes to some extent. Nine-tenths of the axes in a given collection are made of igneous rocks, and the great bulk of the igneous rocks used are the fine textured rocks, especially basalt and diabase. No rock is better suited for pecking and polishing than the finer grained igneous rocks, nor on the whole are any more

resistent to fracture, none are tougher. These are qualities of prime importance in axes. The very fact that so large a percentage of axes are made of the best obtainable material is significant of the fact that early man deliberately sought for certain qualities and looked until he found them."

"It shows how truly he was a judge of rock composition and texture, of the suitability of any given rock for a given purpose. Let us consider in more detail some of the features which he sought, or those which he rejected. In selecting a rock for axe purposes, other things being equal, he would take first of all a quartzite type. If it were a question between granite, which contains quartz, and syenite, which has little, he would almost invariably select the latter. The axe-maker was aware apparently of the hardness of the mineral, of the difficulty with which it was worked, and he naturally avoided rocks that contained it in abundance when seeking axe material. He recognized the mineral, because in rocks which have such similarities as syenite and granite he chose the former, that is, he did not depend upon color or texture alone to guide him, but he must have looked for that glassy mineral that we call quartz."

"Then again the axe maker selects rocks that are relatively free from mica. Rocks rich in that mineral are used for pendants and ceremonials, but not for axes or other tools that have to undergo hard usage. Micaceous rocks flake readily, and they also show a marked tendency to disintegration through hydration. Here again the aborigine recognized a mineral which contributed undesirable qualities to a rock and he rejected it. Again he refrained from using coarse-grained types of rocks as a rule. He chose rather those of fine and even texture. Experience taught early man the inefficiency of such materials and his judgment, of which we are speaking, kept him from wasting his time in experimenting with them."

"Again the aborigine avoided the use of rocks that contain Gneissic and schistose structures. Rocks that contain

well developed planes of any sort are obviously unfit for axes, as they tend to split along these structural planes and become unfitted for use; hence metamorphic rocks are not useful for axes and are not commonly employed save the greenstone, a metamorphosed igneous rock which was used quite extensively. Greenstone possesses a fine texture. It is hard and tough and forms an ideal material in many respects, but it has this one drawback, it does contain a great many structural planes, and the axe sooner or later comes to grief. Clastic rocks lack the cohesion and hardness that is desirable in axes; they break easily, become dull very readily and need constant attention. The Aborigine did not restrict himself to this somewhat limited choice of materials from volition. Wherever opportunity afforded he selected unusual types of rock and thus showed his desire for variety and wide range of material. This is shown by his employment of jadeite, hematite, actinolite, etc., wherever they were obtainable. It is noticeable that in this country, the axe-maker sought a type of material that could be pecked and polished."

"What has been said regarding the axe illustrative of aboriginal judgment and knowledge might be repeated for each type of artifact. In each case we should find that the worker had particular reasons why he selected material for a certain artifact, and that these reasons were founded on an understanding of the mineralogical and structure differences in rocks. If we study ornaments and ceremonial stones, we shall see that ordinarily he selected a soft ornamental rock, specially the banded slates, but if he chose to use igneous rocks he rarely employed the types used for axes, but ordinarily the handsome porphyries which make showy and attractive objects. If he wished material for net-weights or sinkers for lines or weights he took the easily worked and abundant sandstones and limestones, which he rejected for other and harder usage."

The battering or pecking operation still plainly visible on

the grooved objects shown in Plates I, II and III was the first application in the manufacture of these interesting implements.

"All, or nearly all, primitive peoples with whom we are acquainted," says Mr. W. H. Holmes in the "Fifteenth Annual Report of the Bureau of Ethnology," "understand and practice the art of shaping stone by battering and its auxiliary processes. Archaeologists have reached the conclusion, from a study of certain groups of prehistoric remains, that the battering abrading operations belong to a somewhat advanced stage of human progress, and that their employment was preceded by a period in which fracturing processes alone were practically used. This is probably in a broad way true of the race, and is certainly true of many peoples or nations. The reason for this order must be sought in (1) the nature of the operations involved; (2) in the materials available to primitive artisans, and (3) in the capacities and needs of men."

"Of the four leading shaping acts, which may be designated as fracturing, battering, abrading, and incising, it may be hard to say which is the most elemental. However, the ease with which, or the order in which they would come into actual use would not depend on the simplicity of the single act, but, supposing materials and needs uniform, on the ease with which they could be made to produce desired results. Without going into details, it may be stated that although the flaking act is not more simple or elemental than the others it is not decidedly more difficult, and that it has an enormous advantage over them in being capable by a single operation—a simple blow—of producing effective and constantly needed implements for cutting and piercing, whereas the other acts must be repeated many times without marked results, and repeated in such manner and order as to bring about a result not comprehensible save through long periods of experiment. Therefore I conclude that where materials are favorable the power and wants of men

will tend most decidedly to the adoption and general practice of the flaking processes in advance of the other stone shaping processes. At the same time it would seem that there need be assumed no great gulf between the two classes of operations. It is indeed hard to see how one could exist for a long period without the development of the other. Assuming that in general flaking is the first to be utilized, we can understand how the other process would be suggested to man. When a mass of stone is to be broken and flaked into shape, a flaking stone or hammer is called for. This hammer in use becomes bruised and gradually takes upon itself a purely artificial shape—the result of battering. If irregularly ovoid, it is in use turned between the thumb and fingers until its periphery becomes symmetric. Viewing this result it would seem but natural that the workman should understand and apply to producing other shapes the processes by means of which the tool in his hand is reduced to specialized shape. Again, the stone flaked, if somewhat tough, is often battered on the edges by the hammer in vain attempt to remove flakes, so that portions of the surface are changed in contour and exhibit the battered character."

"It seems remarkable that such operations should go on for long ages producing visible results without attempts to utilize the means of modifying shapes thus distinctly suggested. At any rate the time did come when primitive men recognized the adequacy of battering as a means of shaping stone. Natural forms were first modified in use and the operations came to be understood and applied. Battering, called in its typical development pecking, was resorted to as a means of increasing the adaptability of available forms to ordinary needs, and a new and important group of shaping operations sprang into existence."

"The materials employed for shaping by the battering process must possess a high degree of toughness combined with the hardness necessary to effective use when finished. Quartzite, quartz, flint, chert, and various other brittle

forms of rock are ill fitted for reduction by pecking, and were not extensively used for highly finished tools. Granites and certain varieties of eruptive rock were preferred; these are heavy, hard, tough and fine-grained."

"The manufacture of implements in large numbers required abundance of material, the deposits of which had to be uncovered and then broken up and removed, and this resulted in the opening of quarries and in the accumulation of large bodies of debris. This is true of the manufacture of flaked and cut-stone implements, as we have seen, but the battered-abraded tool used in limited numbers usually had a sporadic or random origin, suitable pieces of stone being picked up and utilized; the amount of the product depended very considerably, no doubt, on the plenitude of convenient pieces of stone. Rarely, therefore, do we find sites where the making of these forms was carried on extensively. The phenomena of manufacture by pecking and grinding, being scattered, have not been so well understood as the phenomena of flaking." While the celt or ungrooved axe is found in every part of the "Old World," the same can not be said of the grooved axe which was almost unknown to the prehistoric people once living there. Prof. Sven Nillson figures two, one of horn-blend, the other of diorite on Plate VIII of his "The Primitive Inhabitants of Scandinavia." Both implements were found in Sweden. "To this division," referring to a celt with a perforation he writes: "belong probably the edged tools round which runs a transverse furrow, unless, indeed, they have not rather been wedges with which to split wood. Mr. John Evans fails in his finely illustrated work, "The Stone Implements of Great Britain," to show them, and in Dr. Ferdinand Keller's "The Lake Dwellings of Switzerland and other parts of Europe," containing ninety-six plates, one seeks in vain for an implement of this form.

It is said that these grooved implements are not as plentiful west of the Mississippi River as in the Eastern and

interior States. This is easily explained by the fact that in the east thousands of diligent collectors have carefully searched not alone for grooved axes, but every other form of stone implement, while up to within a few years in the West little attention was paid to them.

The manufacture of stone axes, and their use by the North American aborigines was as cited by numerous authorities very general. Loskiel, "History of the Mission of the United Brethern," tells us that "their hatchets were wedges, made of hard stones, six or eight inches long, sharpened at the edge and fastened to a wooden handle. They were not used to fell trees, but only to peel them, or to kill their enemies."

Beverly, "History and Present State of Virginia," London, 1705, writes: "Before I finish my account of the *Indians* it will not be amiss to inform you that when the *English* went first among them they had no sort of iron or steel instruments; but their knives were either sharpened reeds or shells, and their axes sharp stones bound to the end of a stick, and glued in with turpentine. By the help of these they made their bows of the locust tree, an excessive hard wood when it is dry, but more easily cut when it is green, of which they always took the advantage."

Lafitau, who spent some time with our aboriginal people, writes an interesting story of the manner of manufacturing and hafting of this stone tool in his work, "*Moeurs des Sauvages Ameriquains*;" "Stone axes have been in use in America from time immemorial. They are made of a kind of very hard and tough stone, and it requires much labor to make them fit for use. They are prepared by the process of grinding on a sandstone and finally assume, at the sacrifice of much time and labor, nearly the shape of our axes, or of a wedge for splitting wood. The life of a savage is often insufficient for accomplishing the work, and hence such an implement, however rude and imperfect it may be, is considered a precious heirloom for the children. When the

stone is finished the difficulty of providing it with a handle arises. They select a young tree, of which they make a handle, without cutting it. They split one end and insert the stone. The tree grows, tightens around it, and encloses it so firmly that it hardly can be torn out."

Captain Bossu informs us in his "Travels through the Part of North America formerly called Louisiana," that this method of hafting a stone axe, was also practiced by the Indians of Alabama and Louisiana. "They" he says, "chose a young tree in which—having made an incision with a flint or pebble as sharp as a razor—they inserted a stone cut into the form of a hatchet. As the tree grew up, it encased the stone which by that means became inseparable from it. Afterward they cut off the tree at the proper length, so as to have a handle to the axe of convenient form." The same writer intimates that lance-heads and darts were fastened to their shafts in a similar manner.

Du Pratz in his "Histoire de la Louisiane," tells us that the axes of the Louisiana Indians were made of a fine-grained dark-grey stone. "Whether these stones," he writes, "were naturally flat or were ground on other hard stones, such as the sand-stone found in Louisiana, certain it is they succeeded in making axes. These stone axes are an inch or more thick at the head, and half an inch in thickness for three-quarters of their length. The edge is beveled but not cutting, and may be four inches wide, while the head is only three inches in width. This head is provided with a cavity—deep enough to admit a finger—in order to facilitate the fastening of the blade in the split end of the handle; and this end is, moreover, firmly bound, to prevent further splitting. In using these axes it was not possible to cut wood, but merely to bruise it; and therefore they always hacked the tree close to the ground in order that the fire which they kindled here might consume more readily the fibres of the wood bruised by the axe. Finally, by dint of labor and patience they succeeded in felling the tree. This

labor requires much time; and formerly, therefore, they were much more occupied than at present, being now provided with axes which we trade to them."

Adair in his "History of the American Indians," mentions that the Cherokee Indians: "formerly had stone axes, which in form commonly resemble a smith's chisel. Each weighed from one to two or three pounds weight. They were made of a flinty kind of stone. I have seen several which chanced to escape being buried with their owners, and were carefully preserved by the old people as respectable remains of antiquity. They twisted two or three tough hickory slips, of about two feet long, round the notched head of the axe; and by means of this simple and obvious invention they deadened the tree by cutting through the bark, and burned them, when they either fell by decay or became thoroughly dry."

In opposition to the statements made by the foregoing writers and observers, who inform us that the Indians could not fell a green tree with only the aid of their stone axes, I place before my readers the assertions of Professor George H. Perkins, who writes on "The Stone Axe in Vermont," in Vol. XX. of "The American Naturalist." as follows: "I do not think that archaeologists have given the grooved axe sufficient credit for utility as a cutting implement. They seem for the most part to be of the opinion that at best these axes could be used only to cut into the bark and bruise the wood so that a fire kindled about a tree so prepared should have greater effect. This may very properly have been a common, perhaps the common, method, and yet the accounts given us by the early explorers of America seem to me to prove that trees were cut, and cut so that they came down, with stone axes. We must always be on our guard against rendering judgment as to the usefulness of a stone implement if we have no other basis for our decision than the results accomplished by it in our unskilled hands. We all know that stone implements that

would be wholly useless in civilized hands are yet of very great efficiency in the hands of savages who have learned how to use them. Many of our stone axes do indeed seem quite unfitted for use as cutting tools, and they may be so, but all are not; some are made from very hard stone and have a smooth, regular edge which, although it may not be comparable to that of a modern steel axe, is yet able to cut soft green wood if not that which is harder. To cite in proof of this only a single writer, let me call attention to one or two statements made by Champlain. The earliest edition of the writings of this explorer, which is now at hand, was published in Paris, 1830, a reprint of course of earlier volumes, but sufficient for our purpose. In his account of a journey which he took with a party of Algonquins in 1609, Champlain speaks several times of the stone axes as used to fell trees, and some of these were 'gros arbres,' and the account shows that the cutting must have been done with somewhat of expedition. His party had iron axes as well as stone, but our author does not compare the two, but calls them all 'meschantes.' In describing the customary method of camping when enemies were supposed to be near, he tells us that as soon as the Indians had chosen the place for a camp, they immediately began to cut down trees to make a barricade, and he says that they know so well how to do this that in less than two hours they have so strong a defence that five hundred of their enemies would not be able to break into it without great difficulty and loss of life. Then in another passage he speaks of the Iroquois cutting down trees for a similar purpose. Nowhere does he speak of fire as an aid in the process. Indeed in the first case where he tells us of so strong a barricade, he says that they make no fire lest the smoke reveal their presence to their enemies."

"From these and similar accounts it seems quite probable, to say the least, that stone axes were used as axes for cutting timber, and with not altogether unsatisfactory results."

It appears that the use of stone implements lasted for a long while after the advent of iron. Mr. E. H. Knight writes in the Smithsonian Report, for 1879, "that the stone battle-axe was used by many of the Anglo-Saxons at the battle of Hastings, and some of the Germans were armed with them at so late a period as the 'thirty Years War'."

S. H. Long who belongs to a later generation of writers, tells his readers in his, "Expedition to the Rocky Mountains," "that travellers saw the western Indians use on the plains similar implements to chop up the vertebrae of buffalos, which were boiled to obtain the marrow."

In describing the grooved axes shown on Plates I, II and III, I shall follow the descriptive terms as given by Mr. Gerard Fowke, in his "Stone Art", published in the Thirteenth Annual Report of the Bureau of Ethnology.

"EDGE refers to the sharp or cutting portion; BLADE, to the part below the grove, *i. e.*, when the cutting portion of the implement is held downward; POLL OR HEAD to that part above the groove; FACE, to the wider or flat portion of the surface, SIDE, to the narrower part; FRONT, to that side farther from the hands; and BACK, to the side nearer the hand when in use."

I shall also, in preparing this paper make use of his tabulation, which appears as follows after being placed into groups. "A. Grooved entirely around, elliptical in section, polls dressed differently. B. Long, narrow, and thin, giving a much flattened elliptical section. C. Grooved on both faces and one side; back hollowed, usually in a straight line the whole length; front drawn in from the groove to give a narrower edge. D. Same method of grooving; back is rounded, and may be in a straight or curved line the entire length, or a broken line straight in each direction from the groove. E. Grooved like the last; same general form, except that the back is flat. F. Grooved on both faces and one side, with both sides flat."

On Plate I, as well as on Plates II and III, are shown a

number of finely grooved specimens which present admirable work done in stone by our aboriginal people. To the mind of the writer, when examining the very fine polished stone implements now resting in museums, and which are supposed to have been made by the prehistoric Indians, is always brought the ingenious idea advanced by the late Major J. W. Powell, in life the able director of the "Bureau of Ethnology," who writes in his article entitled, "Prehistoric Man in America," published in *Forum*, Vol. VIII, pp. 492-93, "that the white men who first came to this country, perhaps made with civilized appliances, many of the fine relics, such as pipes, axes, etc., prized by the Indians, and now resting in our cabinets as mementoes of an almost vanished race." For this opinion Major Powell cites no authority—there is none—nor does he wish his readers to believe that it is true. It is simply a suggestion on his part.

Fig. 1, Plate 1, found on the surface near Riegelsville, New Jersey, represents a grooved implement which possesses many interesting features. It is made of granite, and its shape has been produced by the pecking process. The cutting edge is the only part polished. It has a prominent ridge on each side running parallel with the groove which completely encircles the axe. This distinctive feature may have been produced to give greater strength to the specimen. No signs of rough usage are seen about it. In section it is elliptical, and its sides down to the front are formed into a slight, gracefully lengthened ogee curve. Its form is exceptional. Dr. C. C. Abbott figures a similar specimen, not quite as perfect in his "Stone Age of New Jersey," published in the Smithsonian Report for 1875, and about it writes the following which aptly fits our implement. "Fig. 18 represents the finest specimen of a large stone axe that we have ever met with. Very many that we have seen have been as large; a number have been of more finished workmanship, but no one has as many features of interest as this. The conical head does not appear to have met with

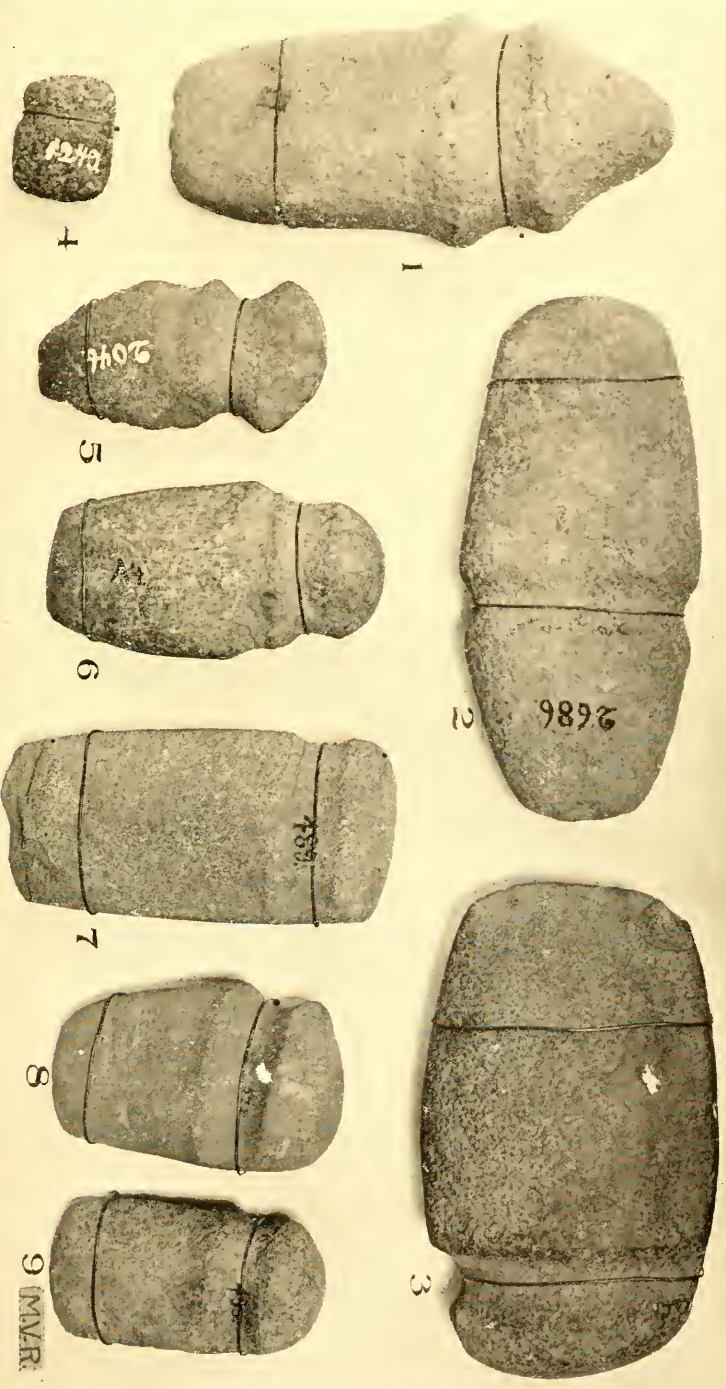


Plate 1. Size two-thirds. The Alfred F. Berlin collection, in Wyoming Historical and Geological Society, Wilkes-Barre, Pa.

any hard usage, and was probably intended for ornament. It would seem as though the ridges, at each margin of the groove, would be of great advantage in securing the handle to the axe, inasmuch as it secures greater depth to the groove without cutting too deeply into the body of the implement itself." Our axe has a polished groove, which smoothness may have been caused by friction when hafted. The fine condition of the axe clearly indicates that its aboriginal owner prized it highly. All the implements on Plate I are shown as one-third actual size.

Fig. 2, pecked or battered into form is of interest because its groove, which completely encircles this tool is placed almost in the middle of the specimen. Its sides, though nearly straight, are rounded and taper in a direct line to the cutting edge, as well as to the end of the poll which is slightly rounded, and indicates its use at times for pounding. It is made of granite and was found on the surface in Carbon County, Penn'a.

Fig. 3, the material of which is granite is a finely made implement, and is pecked into the shapely form which the figure conveys. It is grooved on both faces and on one side. Both sides are flat, and curve gracefully toward the edge. Its shallow groove showing polish through friction by the handle, is also, as one can see very narrow, and for so large a specimen has a very small poll. The marks of the pecking tool are clearly evident on every part of its surface. It was found in perfect condition—the large chip showing on its edge being knocked out through carelessness while in the hands of the finder—who picked it up on his farm, ten miles north-east of Reading, Penn'a. The writer drove twenty miles to secure the object, which after much entreaty he secured, and which was the first axe to add to his collection. In the foregoing tabulation it may be placed in class D.

Fig. 4, a minute granitic implement, finely polished, was found on the surface in Macon County, Missouri. The

shallow groove encircles both faces and one side of the axe. Like Fig. 3, it can be placed in class D. Whether a weapon of ceremony or the play-thing of an aboriginal child it is difficult to tell.

Figs. 5 and 6, double-grooved objects found in considerable numbers in the pueblos of the south-western United States, are extremely rare in the States bordering on the Atlantic Coast, as well as in the States lying in the Mississippi Valley. As they are both small implements the utility of the second groove is not evident. Fig. 5, with its secondary and shallow parallel groove placed around the centre of the specimen is made of a fine-grained brownish sandstone. It is pecked into shape, and only the cutting edge which is almost pointed is polished. Its principal groove completely encircling the tool is wide as well as deep. It was found on the surface in Berks County, Penn'a.

Fig. 6, also shaped with the stone pick is a curiously formed and interesting implement. It has a small rounded head or poll, and its larger channel which reaches around it is both wide and deep. The secondary parallel furrow is narrow, very shallow, and also encircles it. While one of its sides extends in an almost straight line to the edge which is polished, the other one opposite is slightly curved. It is made of diorite, and was picked up from the surface near Slatington, Penn'a.

Fig. 7, a nicely formed and polished axe was found on the surface near Cherryville, Penn'a. Many of the relics made by the Indian have been found in the vicinity of this village and the spot is still called the "Indian Land". It was the first reservation for the Indians in the United States. When found its cutting edgewas completely battered away, proving very rough treatment. We are told that the Indians often dug graves with these grooved implements. If this assertion is true, one can easily understand why the edge was so badly battered. Its sides extend edgewise in almost a straight line. The furrow which is rather shallow, extends around

one side, and two faces of the axe. It may be placed in class F. One is inclined to ask how an implement of this kind was placed when hafted, which side was on top, and which the lower? This thought causes the writer to quote Dr. Abbott who says: "The universal exception that co-exists with every rule here obtains in the pattern of axe that is grooved upon each side, near the head and across one margin, but whether the top or bottom is uncertain. * * * So far as the continuation of the groove across one margin is concerned, we find that a forked sapling can be best attached to such axes by placing the flat margin in the fork of the handle and drawing the ends together *over the groove*, thus making it the top or upper margin of the implement. * * * Careful examination also of the edges of such specimens as we have had seem to us to show also that this manner of securing the handle was that pursued by the people who made and used these axes."

Fig. 8, is a polished, and slightly weathered object of limestone. Its furrow both wide and deep crosses the implement in a diagonal direction which causes the blade to incline backward. Dr. Abbott in his "Primitive Industry," writes, that the majority of grooved axes found in the valley of the Susquehanna River in Penn'a have the groove oblique with reference to the edge. Its sides, one of them flat, and the other rounded form a straight line to the edge of the tool which is very sharp. Wedges were placed between the flat sides of such axes and the curves of their handles for better security. Mr. Fowke of the "Bureau of Ethnology" seems to think that specimens of this form are unusual. The relic was found in Joanna, Penn'a.

Fig. 9, is a polished granite implement which is grooved on both faces and one side. The sides run in a straight line to the cutting edge which is as wide as the body of the axe. It is a fine and very interesting object. Its groove is also slightly diagonal. It was picked up near Pleasantville, Penn'a.

On Plate II, on which are figured five rare axes,

shown one-half actual size, can be seen an uncommon form of a double edged implement, made of a red, close-grained sandstone, the central part of which is completely encircled by a deep and rather narrow groove. There is every indication that this specimen was used in girdling trees. Its edges are chipped and dull and show rough usage. The Indians could with an implement of this kind fell a tree by bruising its bark close to the ground, and then with the aid of fire more readily destroy the crushed fibre. It was found near Crawford, Mississippi, is eight inches long, five inches wide, two inches thick, and weighs six pounds.

Fig. 2 is a perfect and fine tool of rarest form. The writer has never seen an axe like this in any of the cabinets of stone relics examined by him, nor has he seen one figured in his many works, in his large library, devoted to the science of archaeology. Completely encompassing it is a deep and wide groove, which is met by a second broad and shallow furrow running around the poll almost in its centre. The reason for this extra channel is obvious. It was made by the pecking process, and the only sign of polish is at the cutting edge. The two sides one curved, the other straight, extend in a slanting line toward the cutting edge, which is about one-half as wide as the broadest part of the specimen, and which is to be seen at the face end of the furrow. It is made of a close-grained red sandstone and is here shown one-half natural size.

Fig. 3, an almost similar axe, also pecked into shape, and made of the same material, has a groove not quite as deep as the preceding encircling it. The flattened poll which is the broadest part of the object, has a small notch connecting with the main channel, on each side. The sharp cutting edge, caused by a fault is not as wide as that of Fig. 2. One of its edges, on account of this defect extends in a much curved line to the edge, while the other passes in the same direction in a straight manner.

Fig. 4, also formed by pecking, and of red, close-grained



1



2



4



3



5

Plate II. Size one-half. The Alfred F. Herin collection, in Wyoming Historical and Geological Society, Wilkes-Barre, Pa.

sandstone is completely ringed by a wide, diagonal groove, polished, which was caused by friction when hafted. The imperfect butt end which is somewhat narrower than the main portion of the tool is notched. Axes having a cutting edge much broader than the poll are not often found.

Fig. 5, is a polished close-grained axe of gray sandstone with an almost imperceptible furrow encircling it. It is notched on each side with an extra indentation in the centre of the poll. Professor Perkins shows as Fig. 3, in his "The Stone Age in Vermont," in the "American Naturalist," for 1886, a similar implement which he calls "a specimen of singular form, and in some respects unique. The notches are very deep though the groove is quite shallow, and the form of the head above the groove is unusual. The Perkins' specimen shows signs of rough treatment which causes it to have a rude appearance. Our specimen is in perfect and fine condition. Crawford, Mississippi, is the home of these remarkable implements. All of them are shown one-half size.

Last, but not the least of the grooved axes is the monster artifact shown on Plate III. It weighs thirteen pounds and six ounces, and was plowed up with a number of other relics, from a low mound near Virginia, Illinois. On each side of the crack, which the picture shows as passing obliquely across the centre of the blade from top to bottom, are placed two shallow parallel furrows. The aboriginal owner, fearing a complete fracture wrapped rawhide or some other clinging material around it. When found it was completely covered with that which appears to be a black paint. Most of this covering was scraped off by the two farmer boys who found it, and who also broke the axe into two parts because of the idea that there was money on the inside of it. Upon the reception of this uncommon specimen by the writer, he at once wrote regarding this point to Dr. E. R. Boardman, the giver, who at that time was a responsible citizen of the town near which it was found.

He returned an answer in which he said that the axe came into his possession a few hours after it was discovered, that he questioned the boys about the black paint, and that they insisted when they picked it up that every part of it was covered except the poll. Its great weight precludes the idea that it was used as a weapon of defense or in the more peaceful occupations. The prehistoric American before he came into contact with European civilization and its attendant vices was a natural strong man. But he would not use as weighty and ponderous an object when implements not so heavy would serve his purposes much better. That it was an object used in their savage rites, a "ceremonial weapon," is the belief of the writer. It may have split and crushed the head of many a poor victim taken a prisoner during battle with other Indian tribes. It has been suggested to the writer that this black covering may at one time have been blood. The sides and faces of the axe are nicely polished as is also the very wide and deep groove which extends around three sides of it. The finely rounded poll is pecked. Its sides are flat, one of them extending in a straight line toward the broad cutting edge, while the other stretches in a slightly curved line in the same direction. The implement is made of diorite, is ten inches long, six inches broad, and measures three and one-quarter inches in thickness at the butt. Its deep furrow is one and one-half inches wide. Much labor and time must have been spent in making this large and unwieldy object. Colonel C. C. Jones says in his "Antiquities of the Southern Indians," that it often required a lifetime to make a grooved axe. Can this be said of this very interesting implement? Dr. Boardman who so kindly presented to the writer this uncommon tool, once in a letter told him that a Winnebago Indian chief who lived near him, and with whom he was very friendly, informed him that the Indians of his tribe never made any axes but always found them, and that they were made by a race of

Plate III. Size 10 in. long, $3\frac{1}{4}$ in. thick, weight 13 lbs. 6 oz. The Alfred F. Berlin collection, in Wyoming Historical and Geological Society, Wilkes-Barre, Pa.



people who lived in that part of the country many years before their arrival.

Deposits of grooved axes, sometimes numbering many specimens, and carefully placed together are found under the surface. Dr. Abbott mentions several of these discoveries: "Whatever may be thought of the scientific value of single specimens of these axes, that value is enhanced perhaps, or at least interest is attached to the specimens, when we occasionally have the good fortune to unearth a so-called 'deposit' of these specimens, sometimes numbering several hundred."

"In one case, in digging a cellar in Trenton, New Jersey, one hundred and twenty were found 'all closely huddled up together,' as my informant described them. They were about three feet below the surface, and a 'foot deep' in the gravel underlying the soil. They were surrounded by, and entirely covered with a bright brick red powder. Again in digging the receiving vault of the Riverside Cemetery, near Trenton, a bushel-basketful of these axes was found, packed closely together, 'six feet deep in the ground.' On the face of the bluff fronting the Delaware River, immediately below Trenton, several such instances have come to the notice of the writer. In the first two instances, the specimens were all grooved cobble-stone axes. In another instance, the 'axe (?),' fifty in number, were of the ungrooved pattern, all of porphyry, well polished, and appeared to have been carefully deposited, and not thrown pell-mell into the hole dug to contain them."

Celts. One of the most important stone implements used by prehistoric or primitive man is the so-called celt, a name which is not a good descriptive term, but which is given because a better can not be found. They are often also called ungrooved axes, and are chanced upon either polished or chipped into shape. They were used in every part of the globe where the stone age once prevailed, and are more generously distributed than the grooved axe. They are

made of flint and other hard and tough stones, they are of various patterns, and they vary in length from one inch to sixteen inches. Their weight ranges from half an ounce to twenty pounds. The purposes for which they served were many. Not only were they used as defensive weapons, but they also served in the making of canoes, in scraping away charcoal from wood; as chisels; in peeling bark from trees; as adzes; as knives used in skinning animals; in cutting flesh, and in grinding their paint. The finer made specimens, usually very sharp, were no doubt, implements of warfare, while those roughly made were used about their encampments. It is uncertain whether the name of this interesting world-wide implement is derived from the Latin *celtis* or *celtes*, a chisel, or the British or Welsh *cellt*, a flint. The first use of the term says Sir John Evans in his "Ancient Stone Implements of Great Britain," "that I have met with is applied to antiquities in Berger's 'Thesaurus Brandanburgicus,' 1696, where a bronze celt, adapted for insertion in its haft, is described under the name of *Celtes*."

Of the manner of the making of the ungrooved axe from its beginning, the writer again takes pleasure in quoting Professor W. H. Holmes, now the director of the United States National Museum, at Washington, D. C., who aptly writes in the "Fifteenth Annual Report of the Bureau of Ethnology" as follows: "The shaping processes by means of which stone was made to assume artificial forms adapted to human needs are varied and ingenious and their mastery is of the greatest importance to all primitive peoples. These processes are distinguished by such terms as breaking, flaking, cutting, drilling, scraping, pecking, grinding and polishing. All are purely mechanical; none are chemical, save a possible use of fire to induce changes in the rock in some parts of the quarry work. A wide range of manual operations is represented and these may conveniently be arranged in four groups: 1, *fracturing*, practiced extensively by the American Indian, and represented by the

terms breaking, flaking and chipping; 2, *incising*, including cutting, picking and scraping; 3, *battering*, including such acts as bruising, pecking and hammering; 4, *abrading*, as in rubbing, drilling, boring, sawing and polishing. These acts are employed according to the nature of the stone or the results desired; as for example, fracture is employed where the stone to be shaped is brittle, like flint, jasper, or quartz; incision is employed where the stone is relatively soft, such as soapstone, serpentine and the like; battering is applied to tough materials capable of resisting the shocks of percussion, like granitic rocks and many of the eruptives. Nearly all varieties are capable of being shaped by grinding and rubbing."

"The processes employed in a given case were determined by the nature of the material, by the intelligence and skill of the workman, by the character of the object designed, and by a number of minor considerations."

"The evolution of the celt may be explained in this manner. The aborigine wishing to make one would look for a waterworn or any other tough, close-grained stone approximating in general outline this tool. He would then with another stone remove a few flakes thereby making the edges thinner and sharper thus saving a large amount of pecking. He would then take a globular stone or pecking hammer and begin to pound away the rugged edges and excrescences caused by flaking. The surface of the implement evened in this manner the grinding or polishing process would begin and this would be kept up with the aid of sand and water until the celt was nicely polished."

Hafted they often were, and in the following manner:

1. A hole was bored through a stick, and the celt roughened in the middle was inserted so that it projected from both sides, and then more firmly secured with some sticky substance.

2. The hole was cut partly through the handle, and the celt would be pushed in as far as it would go, and then secured with gum or glue.

3. The top of the celt was set in a socket of deerhorn, then fastened in a handle as in 2. Of this class many have been taken from the Swiss lakes.

4. A stick was split its entire length and a single turn taken around the tool, the ends being brought together and tied thus forming a round handle.

5. A stick was split part way, one fork cut off, and the other fork wrapped once or twice around the implement, then securely tied, thus forming a round handle of solid wood.

6. The fork of a root or branch was trimmed so as to make a flat face at any desired angle, to which the celt was lashed, a shoulder, against which the end of the celt was set, being sometimes cut in the wood.

In securely fastening and tightening their ungrooved axes they certainly also used rawhide or sinew which when placed on in a green state in drying contracts and closely binds

On Plate IV. are figured a number of celts of different form and size. All of them except figure two are finely polished. Fig. 1 is a long slender implement of argillite, with a prominently rounded and sharp cutting edge, and an almost pointed, truncated top. In section it is elliptical, and its sides are straight. Its entire surface is nicely polished, and it shows no signs of rough handling. It was found on the surface near Grassy Cove, Tennessee, and is shown on the plate is one-third natural size, as are all the other specimens.

Fig. 2 shows signs of much pecking. Roughened in this manner, it would hold much better in its handle. Both top and cutting edge which are rounded show traces of considerable use. It was picked up in Jefferson County, Ohio, and is made of diorite.

Fig. 3, a large and finely polished, perfect specimen is made of a light-colored, close-grained sandstone. Its sides curve slightly to the edge, and its top is almost pointed. It was found on the surface near Crawford, Mississippi.

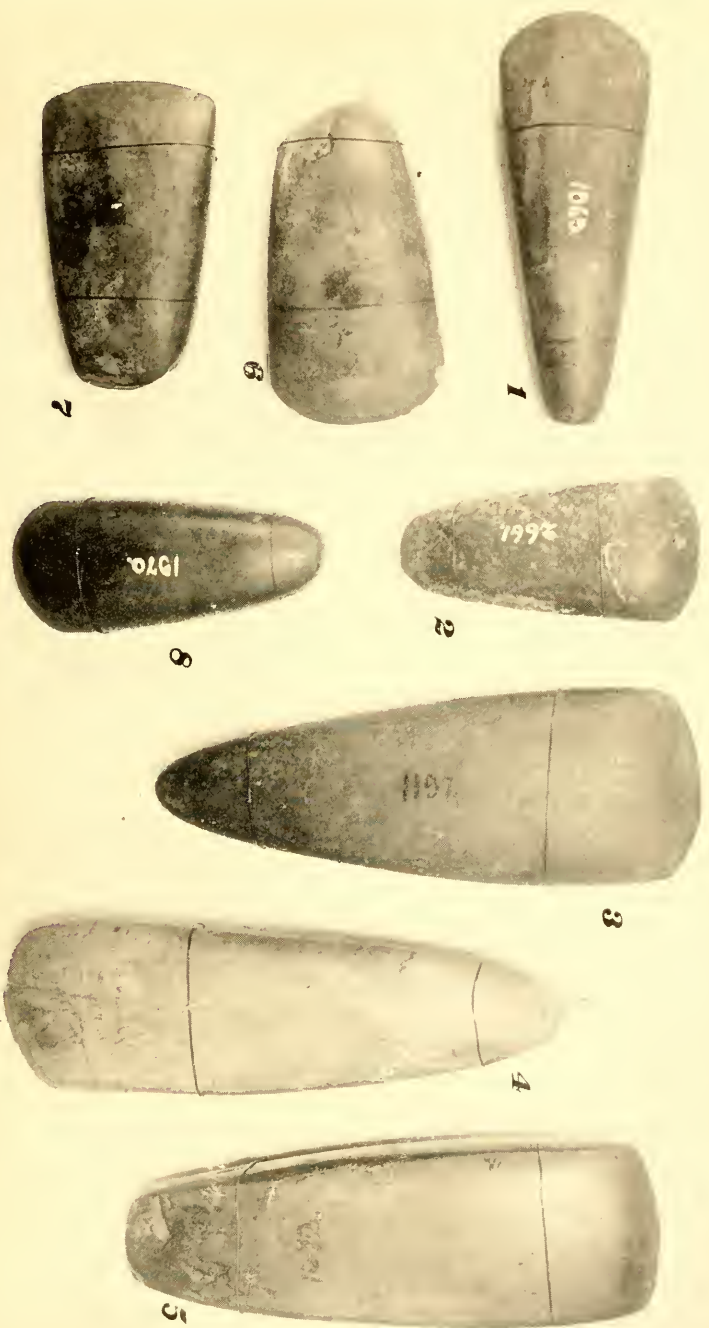


Plate IV. Celts, size one-third. The Alfred F. Berlin collection, in Wyoming Historical and Geological Society. Wilkes-Barre, Pa.

Fig. 4, another well polished object, somewhat irregular in form, is made of a light green-colored green-stone. It was found in Alabama.

Fig. 5, a splendid specimen, also of a compact dark green-stone, nicely polished is also from Mississippi. Its sides are square, and curve slightly to the cutting edge which is sharp. Its top is truncated, and in section it is rectangular.

Figs. 6 and 7 are short, clumsy tools probably at one-time much longer, but worn away by continual sharpening. While they have sharp edges, their tops indicate considerable usage. Argillite seems to be the material from which they are made. Both are from Mississippi.

Fig. 8, is as fine a celt as can be found. It is as perfect now as it was in the days of its maker, and its polished surface glistens. It is made of a very close-grained rock. It was picked up near Grassy Cove, Tennessee.

Many of the small celts were set into a piece of deer antler, and then fastened into a short wooden handle in which capacity they were used as knives or scrapers. They were also used on the flat surface of a stone to grind into a powder the paint with which the Indians adorned their bodies.

The writer once showed to the late Dr. John Detwiller, then living at Bethlehem, Penn'a., who for two years lived with the Indian tribes of the United States of Columbia South America, two finely polished, very small celts, who upon seeing them said that he often while with the Indians saw them use similar small implements on a flat stone to prepare their paint, which was done by holding the object between the thumb and the two first fingers of the right hand, and that in a short time they ground into powder as much paint material as they wished for decorative purposes.

In the manufacture of their many forms of stone implements the ingenuity and skill of the prehistoric workmen found varied expression. Much time, labor and great pains were often expended in bringing them to the desired shape. Years were sometimes spent in fashioning a fine stone tool.

To note some of the ideas that have been held in different countries respecting the nature and origin of the celt may interest my readers. Sir John Evans, in his very learned work "Ancient Stone Implements of Great Britain," says: "The country folks of the West of England still hold that the 'thunder axes' they find fell from the sky. In Cornwall they still have medicinal virtues assigned to them; the water in which a 'thunderbolt,' or celt, has been boiled being a specific for rheumatism. In the North of England, and in parts of Scotland, they are known as 'thunderbolts,' and are supposed to have preservative virtues, especially in diseases of cattle. In Ireland the same superstition prevails, and I have known an instance where a stone celt was lent among neighbors to place in the troughs from which cattle drank, on account of its healing powers."

"In most parts of France, and in the Channel Islands the stone celt is known by no other name than *Coin de foudre* or *Pierre de tonnerre*; and Mr. F. C. Lukis gives an instance of a flint celt having been found near the spot where a signal staff had been struck by lightning, and which was proved to have been the bolt, by its peculiar smell when broken."

"In Brittany the stone celt is frequently thrown into the well for purifying the water, or for securing a continued supply; and in Savoy it is not rare to find one of these instruments rolled up in the wool of the sheep, or the hair of the goat, for good luck, or the prevention of the rot or putrid decay."

"In Sweeden they are preserved as a protection against lightning, being regarded as the stone-bolts that have fallen during thunderstorms."

"In Norway they are known as Tonderkiler, and in Denmark the old name for a celt was Torden-steen. The test of their being really thunderbolts was to tie a thread round them, and place them on hot coals, when if genuine, the thread was not burnt, but rather rendered moist."

"In Germany the celt is regarded as a thunderbolt; and,

on account of its valuable properties, is sometimes preserved in families for hundreds of years."

"The German belief is much the same as the Irish. Stone celts are held to preserve from lightning the house in which they are kept. They perspire when a storm is approaching; they are good for diseases of man and beast; they increase the milk of cows; they assist in the birth of children; and powder scraped from them may be taken with advantage for various childish disorders. It is usually nine days after their fall before they are found on the surface."

"In Holland in like manner, they are known as *donderbeitels*, or thunder chisels."

"Among the Portuguese and in Brazil the name for a stone axe-blade is *Corisco*, or lightning."

"In Italy a similar belief in these stone implements being thunderbolts prevails, and in Greece the stone celts are known as *Astropelekia*, and have long been held in veneration.

"In Japan they are known as thunderbolts, or as the battle-axe of Tengu, the Guardian of Heaven; and in Java as lightning-teeth.

"In Burmah and Assam stone adzes are called lightning stones, and are said to be always found on the spot where a thunderbolt has fallen, provided it is dug for, three years afterwards. When reduced to powder they are an infallible specific for ophthalmia. They also render those who carry them invulnerable, and possess other valuable properties."

"Among the Malays the same idea of the celestial origin of these stones prevails; while in China they are revered as relics of long deceased ancestors."

"In India they are regarded as sacred, and often adorned with red paint."

"It is the same in Western Africa. There also the stones, or thunderbolts, which Sango, the Thunder God, casts down from heaven, are preserved as sacred relics. In

appearance they are identical with the stone hatchets picked up in the fields of America."

"Bacchus was in one instance worshipped in the form of a hatchet; and on a Chaldean cylinder a priest is represented as making an offering to a hatchet placed upright on a throne. Attention has also been called to the fact that the Egyptian hieroglyph for *Nouter*, God, is simply the figure of an axe."

"In Brittany the figures of stone celts are in several instances engraved on the large stones of chambered tumuli and dolmens."

"There are two deductions which may readily be drawn from the facts just stated; first, that in nearly all, if not indeed in all parts of the globe which are now civilized, there was a period when the use of stone implements prevailed; and, secondly, that this period is so remote, that what were then the common implements of every-day life have now for centuries been regarded with superstitious reverence, or as being in some sense of celestial origin, and not the work of man's hands."

A number of years ago the writer was shown a finely polished and perfect black celt, owned by a person living at Allentown, Penn'a. He prized the object highly, for he found the "thunder-stone," as he called it, immediately after an electric storm at the foot of a tree where it had been cast by a lightning bolt. He would have it no other way, so he was left with his "thunder-stone" with which he would not part. In my collecting tours throughout Eastern Pennsylvania, especially in districts inhabited by the so called Pennsylvania Germans, I often met people who kept in their possession flaked implements as well as chips of flint which they used for the purpose of incantation. They could not be induced to part with these ceremonial objects.

It would appear difficult or impossible," says Mr. Fowke, "to do with their rude tools any work for which an axe or hatchet is commonly used; yet by the aid of fire, or even

without it, the primitive people contrived to accomplish a great deal with them."

"The Maori of New Zealand do all their wonderful work of wood carving with only a chisel or adze (of stone or shell). Among the Iroquois, in cutting trees, fire was applied at the root, the coals were scraped away with a chisel, and this process was repeated until the tree was felled. The trunk was divided into lengths in the same way. Canoes and mortars were hollowed out in the same manner."

Implements of celt-like form have been found in prehistoric soapstone quarries where they were used in cutting out blocks from which they made their pots, as well also as in hollowing out these vessels. The marks of their use can plainly be seen on the unfinished specimens, on the cores, and also on the face of the quarry.

But few hafted implements of this class have been found. Professor Perkins says in "Prehistoric Implements," that a celt hafted in a wooden handle can be seen in the American Museum of Natural History, New York. Sir John Evans figures a few in his "Ancient Stone Implements of Great Britain." In the Report of the Smithsonian Institution for 1896, a celt still held in its original handle is also figured. If there are more, of which there is no doubt, they are not known to the writer. One found in Switzerland hafted is in the Berlin Collection.

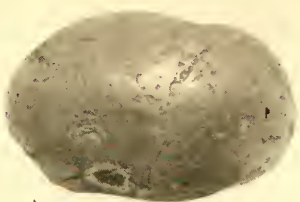
Hematite Objects. Hematite, an iron ore, was very often a factor in the manufacture by the prehistoric Red people of their grooved and ungrooved axes, ornaments, ceremonial weapons, and other small objects the use of which is problematical, and as well also in the production of red paint for the purpose of decoration. It is found in almost every section of the country where iron-ore abounds. From the Iron Mountain district of Missouri, and the Marquette region of Michigan vast quantities have been taken. It has been found in Ohio, Western Virginia and Arkansas.

Traces of ancient iron ore mining by the Indians were discovered near Leslie, Missouri, in 1903, where old excavations were seen going down into the soil from one to five feet. Digging still further into the deposit of ore it was discovered that the prehistoric miners had fairly honey-combed the deposit, and that passage ways extended even below the present floor of the mine. "There were many partially filled galleries, generally narrow and sinuous, but now and then larger openings appeared, two of these being of sufficient dimensions to accommodate standing workmen."

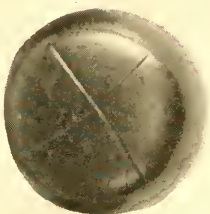
"It was observed in approaching the mine," says Mr. Holmes who made a study of this iron deposit. "that the exposed surfaces of the ore and the ground about were everywhere a brilliant red. The workmen were red from head to foot, and any one venturing to handle the ore soon found his hands smeared with red oxide, repeated washing being required to remove it. The prevalence of the red color suggested at once the idea that the site had been an aboriginal paint mine and that the red and yellow oxides were mined and carried away to be used as paint—an article of utmost importance in the aboriginal economy.

The finding of enormous numbers of rude, roughly grooved or notched implements once hafted, consisting of hard masses of stone or hematite, and weighing from one to five pounds made it certain that extensive operations had been carried on by the ancients, perhaps for a long time. The peculiar properties of the stone as well as its bright color undoubtedly appealed to the Indian stone worker to whom time in the production of hematite objects was of no account.

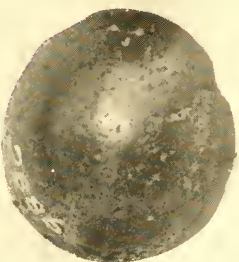
On Plate V are shown two cones, two celts, two plummets and a magnificently polished small barrel-shaped discoid, all made of the hard refractory material just described. They are all, excepting the discoid which is black as a coal, of a greyish-blue color. Their use, except the



1



2



3



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5



6



7

ungrooved axes, and Fig 1, is a mystery, and for this reason have been classed with problematical objects.

Fig. 1 with a flat base and rounded top evinces the fact that it was used as a paint muller. Bright red paint is still in some places adhering to it. It is two inches long, one and one-quarter inches wide, about as high, and was picked up near Crawford, Mississippi.

Fig. 3, a true cone or mammiform object brightly polished, is one and seven-eighth inches in diameter at its flat base, and one and one-eighth inches high. Its top is slightly rounded. It was found near Crawford, Mississippi. These ceremonials also occur in banded slate, in a hard yellowish clay-like stone, and have been found made of granite, steatite and other hard material. "The base often varies somewhat from a circle, and the apex is sometimes quite low. Occasionally the specimens are truncated or abruptly sloped above or grade into hemispheres." They are found in greatest numbers in States east of the Mississippi River. They may have been employed in gaming, carried as charms, or served the medicine man during his incantations. Yielding readily when rubbed on a hard stone, a red paint, the hematites may have been used to procure this material for the purpose of decoration.

Mr. Holmes tells us that: Similar Conical objects of hematite are used by the Pueblo Indians of to-day, and were used by the ancient tribes in making sacred paint; a tablet of sandstone or shale served as the grinding plate, and the cone, which was the muller also yielded the paint.

Fig. 12 on Plate XI, is a rare cone-like object with a truncated top. Its base diameter is one and three-quarter inches and its height one and one-quarter inches. It is made of a hardened, yellowish clay-like material, and was also picked up from the surface near Crawford.

Fig. 9, on Plate VIII, made of a greenish colored banded slate is almost a perfect hemisphere. Its flattened base, into which has been worked a shallow depression partly polished,

and covering two-thirds of it, is one and one-quarter inches in diameter, and one inch high. It was found near Xenia, Indiana. Banded slate specimens are most plentiful in the Ohio valley. They served no doubt the same purposes as did other cones.

Fig. 4, Plate V, an ungrooved axe or celt, having a remarkably sharp edge was obtained from Macon County, Missouri. It is two and three-quarter inches long, one and three-quarter inches wide, and weighs three-quarters of a pound. It may have been used as a paint muller.

Fig. 6, same plate, is a finely polished celt-like specimen, three and one-half inches long, one and three-quarter inches wide and one and one-quarter inches thick. It weighs a little more than a pound. Cut into section it would appear as an elongated oval. It was also found in Macon County, Missouri.

Figs. 5 and 6 are two nicely finished "pendants" or "plummets," the latter name being given to them because of their similarity to the bricklayer's similarly shaped implement. They were found at Bayou de Glaize, Louisiana. One of them is grooved at the pointed end, and the other is perforated. Varied uses have been assigned to these interesting problematical objects by different writers. Dr. Charles Rau has the following to say of them in his "Prehistoric Fishing." Smithsonian Contributions to Knowledge, No. 509: "A close examination of the large series of such objects in the United States National Museum has led me to consider them as sinkers for fishing lines, a view which does not exclude the possibility that some of them may have been differently used. Such relics occur throughout the whole breadth of the United States, from New England to California, and the specimens obtained from this extensive territory show, notwithstanding the variety of their forms and conformity in general character, which, according to my judgment points to the same mode of application."

"The theory of their use as sinkers is met by the objection that too much care has been bestowed on the manufacture of many of them to risk their loss while thus employed. But this argument can easily be overcome by an examination of the angling implements still in use among uncivilized, yet somewhat advanced, tribes. These people take great pains in the production of their weapons and other accoutrements, as any one can perceive who devotes his attention to a collection of such articles. The western Eskimos, for instance, excel in the production of fishing tackle of every kind, and I will mention, with special reference to the question here treated, that they employ at the present time carefully-made pear-shaped line sinkers of stone and ivory, and risk to lose them while angling, and if by accident, they are deprived of them they make new ones."

"An elongated pear-shape, it must be admitted, is the form best adopted for a line sinker, and, indeed, is commonly given to the leaden sinkers found in every hardware store where apparatus for angling is sold."

They are often found in graves associated with human remains, and we have it on the authority of Mr. Holmes, whose opinions I have so often quoted in the preparation of this article that: "Some were undoubtedly worn on the person after the manner of pendant ornaments, but there is good reason to believe that many of them were devoted to magic and ceremony, being invested by their owners with extraordinary powers as charms, talismens, amulets, fetiches, etc., capable in one way or another of exerting profound influence on the welfare of the individual, the society, the clan, or the tribe."

"The Indians of Southern California, in whose possession some of these objects are found, believe them to be helpful in war and the chase, in producing rain, in curing the sick, in games of chance, etc. * * * It is worthy of note that the aborigines generally are disposed to attribute magical significance to all old worked stones as well as to all unusual

natural shapes. * * * The ancient name of the plummet type was *mōjābāwasin*, a stone (- *asin*) of human attributes (- *ābā*) that cast a spell (*moj-*). Its present name is *shingābāwasin*, stone of human attributes lying at rest (*shing*). *Kisis*, sun, was applied to a circular disk; and *tibi ki kisis*, 'night sun or moon,' to a crescent perforated at the horns. These three types—plummet, circular and crescent went under the general name of *ubawānāganan*, dream objects."

The finding in a dry bed of a small lake in California, drained in 1870, for agricultural purposes, of many hundreds of these objects indicates that they were used as sinkers on fishing lines or nets. Or did the aborigines believe that they possessed a magical power over the finny tribe; or were they offerings to the spirits who were the keepers of the fish?

Fig. 5 is two and one-half inches long. Diameter at thickest part of the bulb one and one-quarter inches, weight three-quarters of a pound. Fig. 7 is three and one-eighth inches long, greatest bulb diameter one and one-quarter inches, and it weighs one pound.

AGRICULTURAL IMPLEMENTS. The North American Indian although by necessity a hunter and flesh eater, which they preferred cooked, and only under compulsion ate it raw, had, when the Europeans discovered this continent, made some steps toward an agricultural state. They found cultivated fields of Indian corn, *Zea mays* which the aboriginal people raised in enormous quantities, and which they were then cultivating as far north as the St. Lawrence River, and west to the Mississippi River. The Indian population in this cultivated area was more numerous, and, because of their well built towns more permanent, and as agricultural people advanced to a higher state of civilization.

This now much used food product originated in the highlands of Southern and Central Mexico, where lived the Mayas, the oldest in civilization of any race on the North

American Continent. It is said that they build the now dead cities of Uxmal, Copan and Palenque, and many others, the architectural remains of which were of a high order.

Professor John Harshberger tells us in his very valuable and interesting monograph, "Maize:" "They excelled in architecture, for their sculpturings are bold and strong, as the facades of the edifices, covered with curious designs, attest. Their boats were seaworthy, and a trade was established between Cuba and Yucatan, for Columbus was shown wax from Yucatan, and was told about the countries toward the sunset. Cacas beans and shells served as a media of exchange. They had an extensive literature; they used tablets and covered the walls of their structures with hieroglyphics."

"Their speech forms one of the rare examples of an American language possessing vitality enough not only to maintain its own ground, but actually to force itself on European settlers and supplant their native speech." Berendt states "that whole families of pure white blood do not know Spanish, but use Maya exclusively." They cultivated successfully, *Maize* beans and pepper, and domesticated bees, from which both honey and wax were collected. This interesting and mysterious nation occupied the peninsula of Yucatan, and reached into Guatemala and Tabasco where they cultivated maize their principal food in great quantity.

"By nothing," says Col. C. C. Jones, in his "Antiquities of the Southern Indians," was the gradual development of the semi-civilization of the Southern and other Indian tribes more clearly indicated than by their general and regular cultivation of the maize, an American plant, whose value—recognized by these aborigines for many antecedent centuries and extensively appreciated at the dawn of the historic period—has ever since received ready acknowledgment wherever introduced to the notice of civilized man. Regarded as a direct gift from the Author of Life to his red children, it was highly prized and held in peculiar

esteem. To make light of, or waste either the grain, or the cob from which it was taken, was never permitted. Certain ceremonies were observed in the spring when it was planted; and of all their rites the Busk—celebrated just before they garnered the ripe ears from the fields—was, perhaps, the most solemn and imposing. Of the American Indians the Southern nations were the most civilized and the least nomadic in their habits. Attached to the soil, they lifted themselves at least somewhat above that rude, beggarly and precarious existence, which so painfully characterized the condition of so many of the aborigines inhabiting other portions of this country, oppressed by greater penury and contending against the rigors of more tempestuous seasons."

Often the Red People had maize in so great plenty that their White neighbors were saved from dying of hunger because of their liberality. Kalm tells us that the Swedish settlements of New Jersey and Pennsylvania were obliged to buy maize of the Indians for sowing and eating.

"The Puritans landed on the bleak coast of New England in 1620. Indian corn carried them over the long dreary winter of 1620-21, for it is mentioned in an early narrative 'that they bought great stores of venison and eight hogsheads of corn beanes. In the spring of 1621 the Puritans began to plant their corne, in which service Squanto, an (Indian) stood them in great stead, showing them both ye manner how to set it, and after how to tend and dress it. Also he tould them excepte they got fish and set within these old grounds, it would come to nothing, and he showed them yt in ye middle of Aprill."

"The English at Jamestown," writes Col. C. C. Jones, "were at times, almost wholly sustained by the liberality of the natives; and Captain John Smith in recounting the friendship of Pocahontas, mentions the circumstance that she in person accompanied from the Indian fields the 'conductas' of grain which relieved the wants of the colonists."

De Sota's army once marched for six miles through continuous fields of maize, and the Spanish soldiers subsisted almost exclusively upon food furnished by the Indians, while their horses maintained themselves on the leaves of the plant." Indian fields in which not even the trace of a stump or root could be seen were frequently met with by the first European settlers. These fields were always situated on the richest spots of ground next to their villages. About their houses they labor and till the ground sowing their fields with the seeds of maize, and at the same time in their gardens they planted beans, gourds, cucumbers, citrons and peas. Each Indian we are told, planted and harvested for his individual account his own field. Sometimes in the South three crops of maize and beans were raised in a year. A Natchez chief, among other things, once offered Du Pratz, the historian, twenty barrels of maize in exchange for a sun-glass.

During the Pequot war in New England, which began in 1637, the English destroyed two hundred acres of corn. In an affray between the Narragansetts and the combined forces of the Mohegans and Pequots, the latter destroyed twenty-three cornfields. In King Philip's War, in 1675, the Puritans took possession of one thousand acres of corn, which they harvested and disposed as they were directed. Hudson when anchored in 1609 off the Catskills, in the river named after him, bought corn, tobacco and pumpkins from the Indians.

The Marquis De Nonville marched with his soldiers on the fourteenth of July, 1687, against the large villages of the Seneca Indians, at one of which although burned he encamped. For ten days all the time was spent at four of the Seneca villages in destroying their corn, which, Squier, in his "Aboriginal Monuments of New York," says: "was in such great abundance that the loss, including the old corn which was in *cache*, which was burned, was computed at 400,000 minots (1,200,000 bushels of Indian corn."

While with the aborigine the emphatic staff of life was maize, which, we have seen they cultivated extensively, and in which operation the large flaked agricultural implements, later to be described were certainly used, they also, over a wide stretch of country raised tobacco. This narcotic weed they believed to be of Divine origin, and a direct gift from the Great Spirit, for their special enjoyment. The limits of the cultivation of tobacco at the time of the discovery has not yet been well defined. That it was cultivated to some extent on the Atlantic side is known; it was used aboriginally all over California, and, indeed a plant called tobacco by the natives was cultivated as far north, as Yakutat Bay, Alaska.

Plate VI shows two large flaked implements, one a spade and the other a hoe, which were probably attached to long handles as are those of the present, both of which were found opposite the city of St. Louis, but a short distance from the Mississippi River, and in the basin of which great stream these ponderous implements are most plentifully found. Both specimens are made of a very hard grayish material, slightly conchoidal in fracture, but the stone is not of that variety of flint of which the spear and arrow-heads, etc., generally found in that section of country are usually made.

Fig. 1, having a deep notch on each side, which better facilitated its fastening to a handle, and showing also a shallow depression at the base of its stem, has been given the name of a hoe. Its blade sides extend down to the rounded sharply chipped edge in almost a straight line, but there are no signs of polish on the blade as seen on some other similar tools. It is six and one-quarter inches long, and is five inches at greatest width. The relic which is flat on one side and slightly ridged on the other presents an admirable degree of workmanship which can be called artistic. "The primary and principal implement," says Dr. Wilson in "Prehistoric Art," "in the making of chipped

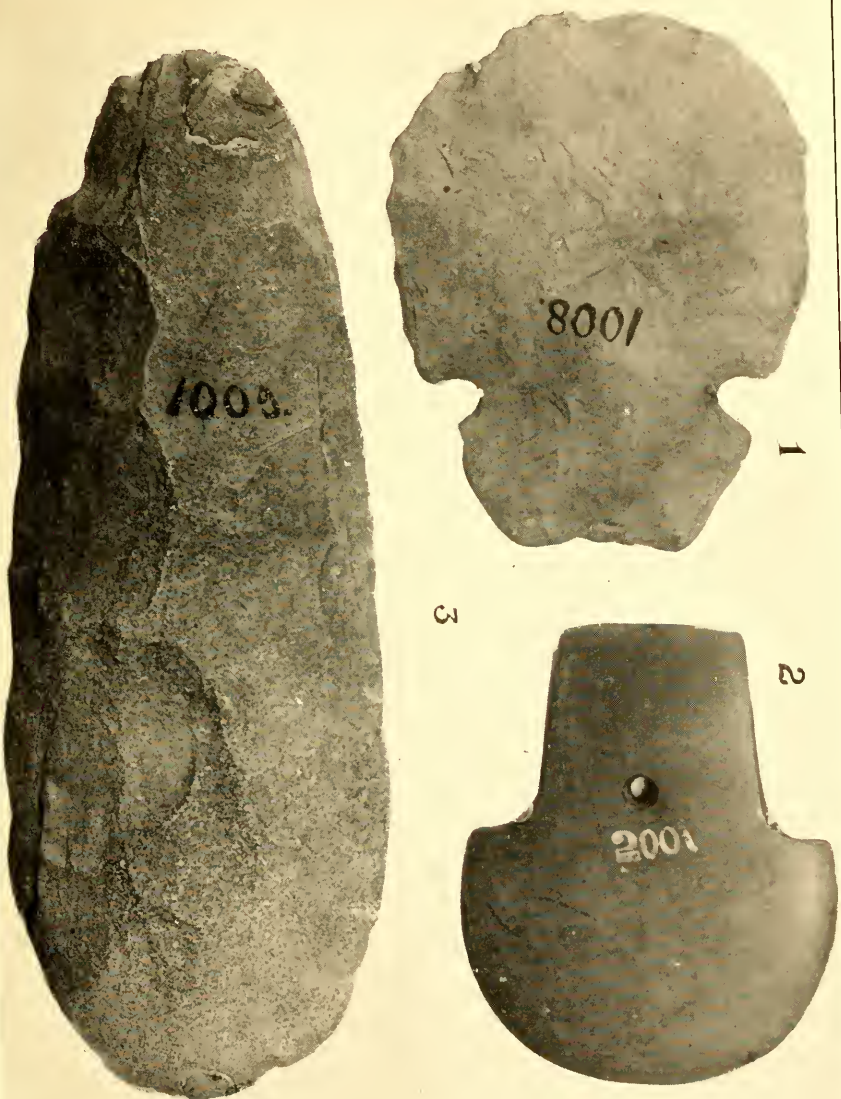


Plate VI. The large chert Hoe, 12½ in. long. The Alfred P. Berlin collection, in Wyoming Historical and Geological Society, Wilkes-Barre, Pa.

specimens is the hammer usually flint, quartz or quartzite, by which the blow is struck which knocks away the flakes. When the corners were worn round it was thrown away, or served some other purpose. The nodules of flint to be flaked into implements, having been prepared, the art of the operation consists in judging the force of the blow and determining accurately the point of impact; then follows the successful manipulation in carrying out this good judgment. In justification of the claim that this is fine art it can be said that no historic or modern individual has ever attained the success acquired by the artist in prehistoric times.

George Ercol Sellers in his "Observations on Stone Chipping," says: "It is the large hoes and spades flaked from quartzite slabs that to me are evidence of a much higher degree of intelligence and skill than the most highly-finished spear and arrow-points evince. Take an edge view of one of these large spades, and observe how accurately straight and free from wind the edge has been carried entirely around the implement, the flattening of one side and rounding the other; then observe that the long flat very slightly depressed flakes have been thrown off at right angles to the edge, even to those curving around its digging or cutting end, which appear to have radiated from a common center. If these flakes have been thrown off by blows so struck and directed as to preserve the clearly lined edges, as the operator had carried them in his mind, a skill must have been acquired that we can not approach. In all the experiments that I have tried with a hammer, whether of stone, steel, soft iron, or copper, they have failed to produce the desired result; the seat of the flake is more chonchoidal, shorter and deeper depressed, whereas the direct *percussive pressure* throws off the shape of flake that we find has been done in making these spades. If this mode has been resorted to, it necessarily required considerable ingenuity in devices for holding the stone slab firmly, while the

pressure was being applied in the right direction. The simplest device that occurs to me that will answer the purpose is a block of wood planted in the ground with its end grain up, cut on top into two steps, the lower and broader step having grooves parallel with the rise of the upper step; in one of these grooves the edge of the implement is placed, its back resting against the edge of the higher step. When in this position, presenting the proper angle to the operator, a man holds it firmly while another applies the pressure. A still lower step on the opposite side of the block, with the back edge of the stop step hollowed out to receive the work, while its lower end rests in an indentation in the lower step. In this manner a spade can be firmly held while its cutting end is being flaked. I do not present this as a mode that was practiced, but as a device that answers the purpose, and, I judge to be within the capacity of the ancient flint-workers, of whom there is nothing left but their chips and finished work."

"I have been informed that a mode still in practice among the remote Indians of making flakes by lever pressure combined with percussion is by utilizing a standing tree with spreading roots for this purpose; a flattened root makes a firm seat for the stone, a notch cut into the body of the tree considered to be the fulcrum for the lever a very slight distance above the root. Either a pointed stick is placed on the point of the stone where the flake is to be split from it, its upper end resting against the under side of the lever, or a bone or horn point let into and secured to the lever takes the place of this stick. When the pressure is brought to bear, by the weight of the operation, on the long end of the lever, a second man with a stone mall, or heavy club strikes a blow on the upper side of the lever directly over the pointed stick or horn-point, and the flake is thrown off."

Another method in the making of flint implements is also interesting enough to note here. "The Pottawatomie Indians when in want of flaked implements proceeded to

make them in the following manner: They selected a tree twelve to twenty inches in diameter into one side of which they cut a cavity six inches deep, and a sufficient distance from the ground to allow of a person occupying a sitting posture on the ground to work this 'instrument' with facility. The upper portion or roof of this notch sloped obliquely downward; the farther side was perpendicular and the bottom horizontal. On the bottom of this cavity a small even slab of rock of some hard material was placed. A short distance above this rock a small hole or notch was made in the farther side of the cavity. Into this notch was inserted the 'leg bone of a deer,' and under this was placed, edgewise and resting on the basal rock below, the piece of stone to be wrought. The implement was then deftly worked out by pressure of the carefully manipulated cylindrical bone."

"The size of the instrument to be wrought was regulated by moving the specimen farther from or near to the outer margin of the basal rock."

Fig. 3 is a large oval spade twelve and one-half inches long, four and three-quarter inches wide, one and one-half inches thick along its ridge, and weighs three pounds. It is flat on one side, and the other side is ridged as the figure shows. Here is presented the work of an aborigine who was an artist, and who excelled in the making of these large stone tools. The lower or digging part is much worn and polished caused, no doubt by long use. A larger specimen, also polished at one end by use, but not figured here can be seen in this collection. It is thirteen inches long, five and one-quarter inches broad, one inch thick, and it weighs three pounds. It was found on the surface at Grand Tower, Illinois. This spade with a number of other fine artifacts, while on exhibition in the museum of the University of Pennsylvania, was ruined because of careless handling by some person in the employ of the museum. No

apology by the trustees or its curator was ever made to the writer for this uncalled for carelessness.

Wood, bone and shell also used in tilling the ground, were described as "wooden howes" and "spades made of hard wood."

"The Florida Indians dig their ground with an instrument of wood fashioned like a broad mattock; and use hoes made of shoulder blades of animals fixed on staves;" "use the shoulder blade of a deer or a tortoise shell, sharpened upon a stone and fastened to a stick instead of a hoe;" "a piece of wood three inches broad, bent at one end and fastened to a long handle sufficed them to free the land from weeds and turn it up lightly." Statements have been made that the Indians did not fertilize the ground which they cultivated. There is evidence that they did. They told the Plymouth colonists to add fish to the ground which they intended to cultivate. "The Iroquois manured their land." "The Virginia Indians and others enrich their fields with shell and fish."

"The Indians of New Mexico and Arizona had learned the art of irrigating their fields before the appearance of the white man on the continent. This is shown not only by the statements of early explorers, but by the still existing remains of their ditches. In the valleys of the Salado and Gila, in Southern Arizona, however, casual observation is sufficient to demonstrate that the ancient inhabitants engaged in agriculture by artificial irrigation to a vast extent. * * * Judging from the remains of extensive ancient works of irrigation, many of which may still be seen passing through tracts cultivated to-day as well as across densely wooded stretches considerably beyond the present non-irrigated area, it is safe to say that the principal canals constructed and used by the ancient inhabitants of the Salado valley controlled the irrigation of at least 250,000 acres. Remains of ancient irrigating ditches and canals are also found elsewhere in these territories."

Discoidal or Chungke Stones. Taken as a whole this problematical implement often also called "chunkey stone," may be considered the finest and most symmetrically made of our stone objects. Polished simply by means of rubbing with other stones, assisted by sharp sand and water, their makers in smoothing and finishing them must have spent not alone weeks and months but often years. The labor put upon them by their makers says Adair "was prodigious." Their degree of polish is remarkable. They are mostly made of a very hard rock, and vary in diameter size from one to six inches. They are from one-quarter of an inch to six inches thick. It is next to impossible to classify these specimens, for they merge gradually from the symmetrical and nicely polished discoidal stone into many other forms.

We find Adair, "History of the American Indians," 1775, first calling attention to these artifacts as "hurling-stones which were used by the Cherokee Indians in their national game of *Chungke*." He states: "The warriors have a favorite game called *Chungke*, which with propriety of language, may be called 'Running hard labour.' They have near their state-house a square piece of ground well cleaned and fine sand is carefully strewed over it, when requisite, to promote a swifter motion to what they throw along the surface. Only one or two on a side play at this ancient game. They have a stone about two fingers broad at the edge and two spans around; each party has a pole of about eight feet long, smooth and tapering at each end, the points flat. They set off abreast of each other at six yards from the end of the play-ground; then one of them hurls the stone on its edge, in as direct a line as he can, a considerable distance toward the middle of the other end of the square; when they have run a few yards, each darts his pole annointed with bear's oil, with a proper force, as near as he can guess in proportion to the motion of the stone, that the end may be close to the stone; when this is the case, the

person counts two of the game, and in proportion to the nearness of the poles to the mark, one is counted, unless by measuring, both are found to be at equal distance from the stone. In this manner the players will keep running most part of the day, at half speed, under the violent heat of the sun, staking their silver ornaments, their nose, finger, and earrings; the breast, arm, and wrist plates, and even all their wearing apparel, except that which barely covers their middle. All the American Indians are much addicted to this game, which to us, appears to be a task of stupid drudgery; it seems, however, to be of early origin when their forefathers used diversions as simple as their manners."

Captain Bernard Romans who often saw this strenuous game played by the Indians of Georgia and Florida tells us about it in his "A Concise Natural History of East and West Florida, 1775;" "Their favorite game of *chunke* is a plain proof of the evil consequences of a violent passion for gaming upon all kinds, classes and orders of men; at this they play from morning till night with an unwearied application, and they bet high; here you may see a savage come and bring all his skins, stake them and lose them; next his pipe, his beads, trinkets, and ornaments; at last his blanket and other garment, and even all their arms; and, after all it is not uncommon for them to go home, borrow a gun and shoot themselves. * * * The manner of playing this game is thus: They make an alley of about two hundred feet in length, where a very smooth clay ground is laid, which when dry is very hard; they play two together, having each a straight pole of about fifteen feet long; one holds a stone, which is in shape of a truck, which he throws before him over this alley, and the instant of its departure they set off and run; in running they cast their poles after the stone; he that did not throw it endeavors to hit it, the other strives to strike the pole of his antagonist in its flight so as to prevent its hitting the stone; if he first should strike the

stone, he counts one for it, and if the other by the dexterity of his cast should prevent the pole of his opponent hitting the stone, he counts one, but should both miss their aim, the throw is removed, and in case a score is won, the winner casts the stone and eleven is up; they hurl this stone and pole with wonderful dexterity and violence, and fatigue themselves much at it."

Du Pratz, "History of Louisiana," 1774, writes that he saw the Indians of Louisiana play the game in the following manner: "The warriors practice a diversion which is called the *game of the pole*, at which only two play together at a time. Each has a pole about eight feet long, resembling a Roman "F", and the game consists in rolling a flat round stone, about three inches in diameter and an inch thick, with the edge somewhat sloping, and throwing the pole at the same time in such a manner that when the stone rests the pole may touch it or be near it. Both antagonists throw their poles at the same time, and he whose pole is nearest the stone counts one, and has the right of rolling the stone. The men fatigue themselves much at this game, as they run after their poles at every throw; and some of them are so bewitched by it that they game away one piece of furniture after another.' "

Lieut. Timberlake, "Memoirs, etc., 1765," saw some Cherokee tribes play this game which they called *nettecawaw*, and John Lawson, "History of Carolina," says "That the Carolina Indians were much addicted to a sport called Chenco, which is carried on with a staff and a bowl made of stone which they trundle upon a smooth place like a bowling-green, made for that purpose."

According to Catlin the Mandan Indians played a similar game which they called "tchung-kee," as also do the Arikara. A similar game in which are used hoops or rings of wood or rawhide is still played by the Apache, Iroquois, Navajo and other Indian tribes.

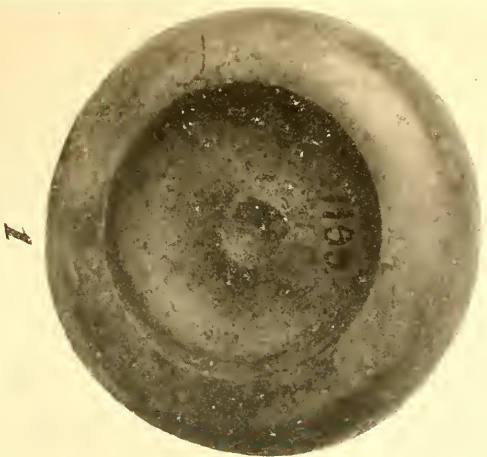
On Plate VII are figured three highly polished discoidal stones, all of which were found near Grassy Cove, Tenn. Fig. 1 made of a yellow-white quartz has a small secondary depression in the centre of each of the larger cavities. The wall separating the two depressions is very thin. Light from the other side can be seen on holding it before a candle. It is four and three-quarter inches in diameter and one and one-half inches thick. Its periphery is nicely rounded and the edges of both large depressions are still sharp.

Fig. 2 is an irregular object with a large cavity on each side both of which indicate much time and work in sinking. It is also made of a yellow-white quartz. It is five and one-eighth inches in diameter, and two inches thick. It is in perfect condition. Its outer side is not as sharply rounded as Fig. 1, but the edge of the cavities is equally as sharp.

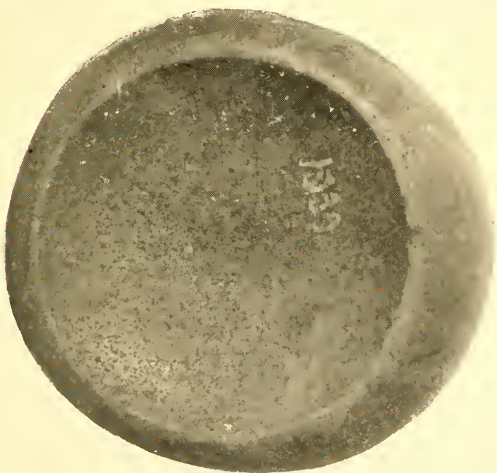
Fig. 3, a cheese or barrel-shaped disc of yellow-white quartz has a slightly curved edge. It is three inches thick or high, four inches in diameter and the shallow depressions, one on each side are one-quarter of an inch deep.

Thurston, "Antiquities of Tennessee," says of a similar relic which he figures in his interesting work that it "seems well fitted for use as a gaming or hurling stone, because like most of the large discs of ordinary forms, it can be grasped conveniently in the hands, while Fowke, "Stone Art," Thirteenth Annual Report of the Bureau of Ethnology, would have us believe that this finely polished implement, upon which so much time and labor has been spent was used as a mortar, a hammer or pestle. He figures an object of almost exact shape and calls it a "Discoidal stone used as a mortar."

Fig. 2 on Plate V, is a well polished black hematite, barrel-shaped discoid with a slightly rounded periphery. It is one and three-eighths inches in diameter and one inch thick. Two incised lines forming an equilateral or Greek



1



2



3

cross extend across both sides from edge to edge. It was found on the surface near Crawford, Miss. The simple cross made with two sticks or marks reaches far back into prehistoric times. Its origin and its meaning are equally unknown, and we can only speculate as to its source. "Far back in the twilight of the pictured history of the past the cross is found on the borders of the river Nile. A horizontal piece of wood fastened to an upright beam indicated the height of the water in flood. This formed a cross, the Nileometer. If the stream failed to rise a certain height in its proper season, no crops and no bread was the result. From famine on the one hand to plenty on the other, the cross came to be worshipped as an emblem of life and regeneration, or feared as an image of decay and death. Long before its advent into Egypt it was a symbol of life and regeneration in India. It was used by the Phoenicians in a similar manner long before the Jews had any existence as a people."

The Catholic missionaries, when they reached the shores of America found the aborigines, especially in Mexico, Central America and Peru, paying adoration to this ancient symbol, as well as handing over to it offerings. They did not know whether to ascribe this fact to the impious cunning of Satan, or to the holy work of the apostle St. Thomas.

"The symbol that beyond all others has fascinated the human mind, *The Cross*," says Dr. D. G. Brinton, in his attractive work, "The Myths of the New World," "finds here its source and meaning. Scholars have pointed out its sacredness in many natural religions. * * * * It is but another symbol of the four cardinal points, the four winds of heaven. This will luminously appear by a study of its use and meaning in America."

"It was the central object in the great temple of Cozumel, and is still preserved on the bas-reliefs of the ruined city of

Palenque. From time immemorial it had received the prayers and sacrifices of the Aztecs and Toltecs, and was suspended as an august emblem from the walls of temples in Popayan and Cundinamarca, Peru. In the Mexican tongue it bore the significant and worthy name 'Tree of our Life,' or 'Tree of our Flesh' (Tonacaquahuitl), and this was everywhere its simple meaning."

"Those of Yucatan" say the Chroniclers, "prayed to the cross as the god of rains when they needed water." The Aztec goddess of rains bore one in her hands, and at the feast celebrated to her honor in the early spring victims were nailed to a cross and shot with arrows. Quetzalcoatl, god of the winds, bore as his sign of office, "a mace like the cross of a bishop."

When the Muyscas (Peru), would sacrifice to the goddess of waters they extended cords across the tranquil depths of some lake, thus forming a gigantic cross, and at their point of intersection threw in their offerings of gold, emeralds and precious oils. The arms of the cross were designed to point to the cardinal points and represent the four winds, the rain bringers."

"When the rain maker of the Lenni Lenape Indians would exert his power, he retired to some secluded spot and he drew upon the earth the figure of a cross, placed upon it a piece of tobacco, a gourd, a bit of some red stuff, and commenced to cry aloud to the spirits of the rains. The Creeks at the festival of the Busk, celebrated, to the four winds, and, according to their legends instituted by them, commenced with making the new fire. The manner of this was: 'to place four logs in the centre of the square, end to end, forming a cross, the outer ends pointing to the cardinal points; in the centre of the cross the new fire is made.'"

Col. Garrick Mallery tells his readers in his "Picture Writing of the American Indians," Tenth Annual Report of the Bureau of Ethnology, that: "The 'Greek' cross represents

to the Dakotah the four winds which issue from the four caverns in which the souls of men existed before their incarnation in the human body."

"The top of the cross is the cold all-conquering giant, the North-wind, most powerful of all. It is worn on the body nearest the head, the seat of intelligence and conquering devices. The left arm covers the heart; it is the East-wind, coming from the seat of life and love. The foot is the melting, burning South-wind, indicating, as it is worn, the seat of fiery passion. The right arm is the gentle West-wind, blowing from the spirit land, covering the lungs, from which the breath at last goes out, gently, but into unknown night. The centre of the cross is the earth and man, moved by the conflicting influences of the gods and winds."

Fig. 14, Plate XI, is a fine polished, small discoid, grey in color and made of oolitic sandstone. It is slightly convex on both sides, and its periphery is flat. It is one and one-half inches in diameter and five-eighths of an inch thick. It was picked up near Grassy Cove, Tenn.

Fig. 15, also a well polished disc made of quartzite, is convex on one side and flat on the other. This specimen may have been used in the preparation of paint. It is one and one-half inches in diameter and has a thickness of five eighths of an inch. It was found near Crawford, Miss.

Another small, finely polished implement of this class, made of diorite, is Fig 18. It is concave on both of its sides, and its circumference is slightly rounded. It has a diameter of one and five-eighth inches, and is three-eighth of an inch thick. Both depressions are one-eighth of an inch deep. It was found in Ohio. These small objects were perhaps the play-things of Indian children.

Bird Shaped Stones. On Plate VIII are figured three nicely made and highly polished, greenish colored banded slate prehistoric implements suggesting, because of their

form a bird. They are found in plenty in the valley of the Ohio around the great lakes, sparingly in Pennsylvania, the South and Southwest. The favorite material, a banded slate from which most of them have been made occurs over a wide area in Ohio, Indiana, Illinois and Canada. They belong to that class of polished objects, the use of which is problematical.

Mr. Henry Gilman figures a "bird stone" in the Smithsonian Report for 1872, and states that he was told by an aged Indian that they were worn as ornaments by Indian women, but only after marriage. "I have thought," he writes, "that these peculiar objects which are always made of some choice material, resemble the figure of a brooding bird; a familiar sight to the 'children of the forest;' that thus they are emblematic of maternity, and as such were designed and worn."

A Chippewa Indian while on a visit to the Smithsonian Institution told Mr. Thomas Wilson, then the curator, "that they served for gaming. They were placed in a pan or basket, which being covered, was shaken and then set down quietly, the cover removed, and an inspection would show how many of the birds were seated upright. The player having the greatest number thus won the game."

Dr. C. C. Abbott quotes Col. Charles Whittlesey, an early Ohio settler, who said that they were worn by Indian women to indicate pregnancy, and from William Penn, that when squaws were ready to marry they wore something on their heads to indicate this fact."

One of the hunt fetiches of the Zuni Indians, says Cushing, is a bird shaped object, either of stone or wood, intended to represent the Eagle which bird was thought to be god of the upper regions. To these objects, often also carved into the form of four footed animals, were attached stone arrow-heads and other small trinkets.

The writer of this article has carefully studied these

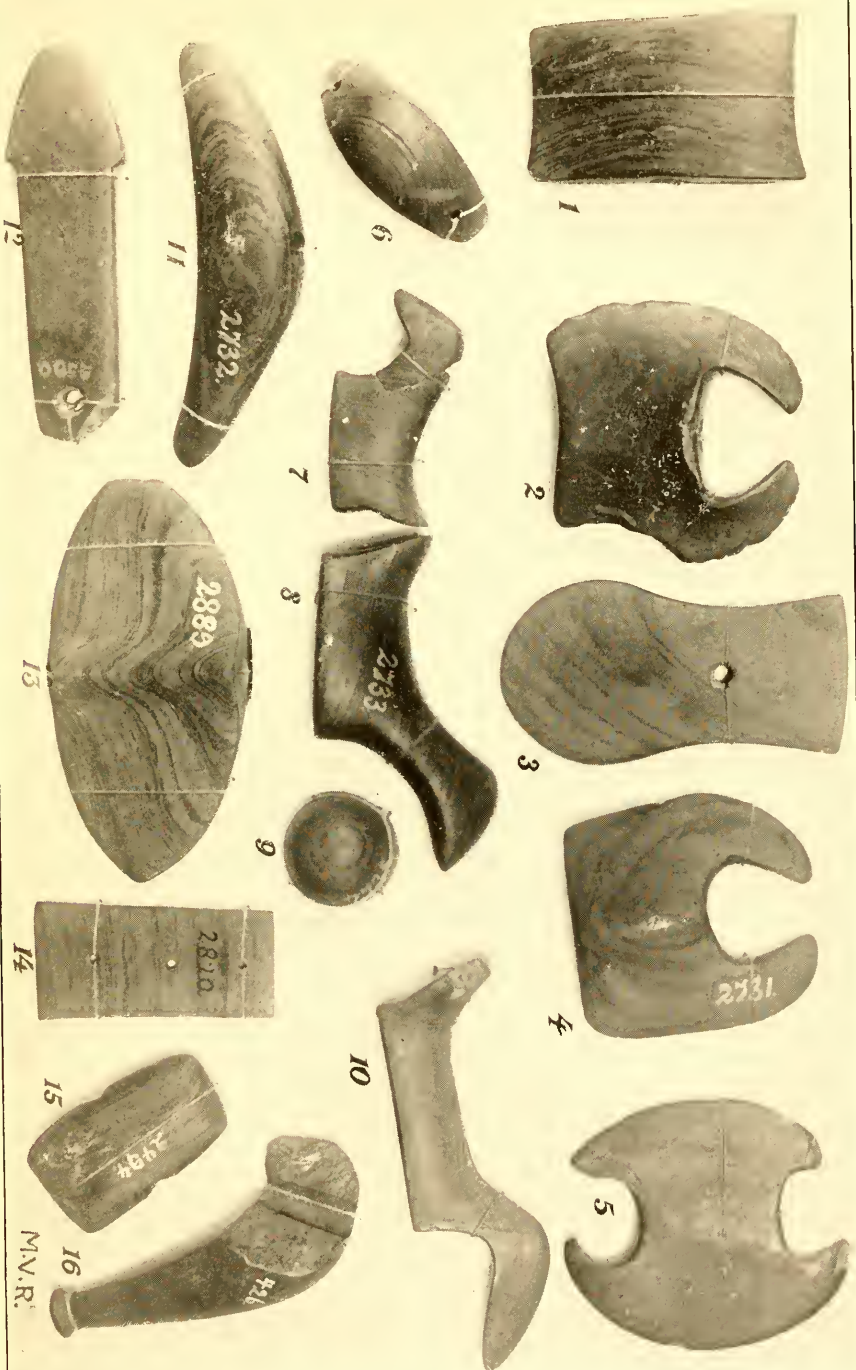


Plate VIII. Size one-half. "Ceremonials" (proliferated forms). The Alfred F. Berlin collection, in Wyoming Historical and Geological Society, Wilkes-Barre, Pa.

mysterious artifacts and he hesitates to believe they were worn by Indian women. Not all of them are perforated, even if finished otherwise in the most careful manner. The perforations in those seen and examined by him do not show any signs of wear. Had aboriginal women worn them as stated, abrasion would be evident in at least some of their apertures. My readers will undoubtedly ask for what purposes were they used? The aborigine was a superstitious creature and as superstition begets much ceremony something had to be contrived to be of help in their religious or other rites. Then for some unknown reason came the bird or saddle-stone into existence to which was attributed a certain occult power causing it to be a ceremonial weapon, and in instances of this kind was given to it a position in the ceremony in which it was considered to be a factor. The addition of perforations perhaps made the meaning of the implements in the rites in which they were used more significant or suggestive.

Fig. 7, unfortunately broken, is a western specimen. It has a slightly curved base which is perforated at each end. It is here shown as one-half size.

Fig. 8, a finely polished relic, without perforations, is four and one-quarter inches long. It has a flat base. It was picked up from the surface in Wabash County, Indiana.

Fig. 10 is a slender, well polished implement having an oblique funnel shaped perforation at each of its base ends. Its tail is somewhat marred, and it also has a flat base. It is five and one-half inches long, and was found near Westminster, Ohio.

Winged Ceremonial Weapons. A series of forms illustrating progressive steps in the manufacture of these mysterious objects is shown on Plate IX. The material from which the rude figures are made is a soft micaceous slate found in place at Peach Bottom, near the Susquehanna River, in Lancaster County, Penn'a.

Fig. 1, which has central notches, caused by pecking, shows a few other spots upon which similar work was done.

Figs. 2, 3 and 4 indicate progress in the shaping of them. They are pecked over almost the whole of their surface and the ridges considered for perforation, are plainly indicated in the centre of each specimen.

Fig. 5, found in Lehigh County, Penn'a, material granite, has been pecked into form. Under its ridged centre has been worked a shallow depression about one-half inch in diameter. Some writers have suggested that an object of this kind was securely fastened on top of a wooden handle.

Fig. 6, while nearer completion, is far from being a perfect specimen.

Fig. 7 is a finely polished specimen of soapstone without perforation. A shallow groove is seen extending along the ridge in the center of the implement. It was found in Lehigh County, Penn'a. The lunar shaped flaked implement made of Novaculite, and shown as Fig. 8, was picked up by the writer at Allentown, Penn'a.

BANNER STONES, which name has also been given to this interesting class of artifacts, says Mr. Holmes in a "Hand-book of North American Indians." Part I "is a name applied to a group of prehistoric objects of polished stone, which for lack of definite information as to their use, are assigned to the problematical class. Their form is exceedingly varied, ~~but~~ certain fundamental features of their shape are practically unvarying, and are of such a nature as to suggest the use of the term 'banner stones,' in classifying them. These features are the axial perforations and the extension of the body or midrib into two winglike projections. Of the various forms the most typical is that which suggests a two-bladed axe, the blade passing on the one hand from the type into pick-like points, and on the other into broad wings, suggesting those of the bird or butterfly. It appears probable, from the presence of the perforation, that they

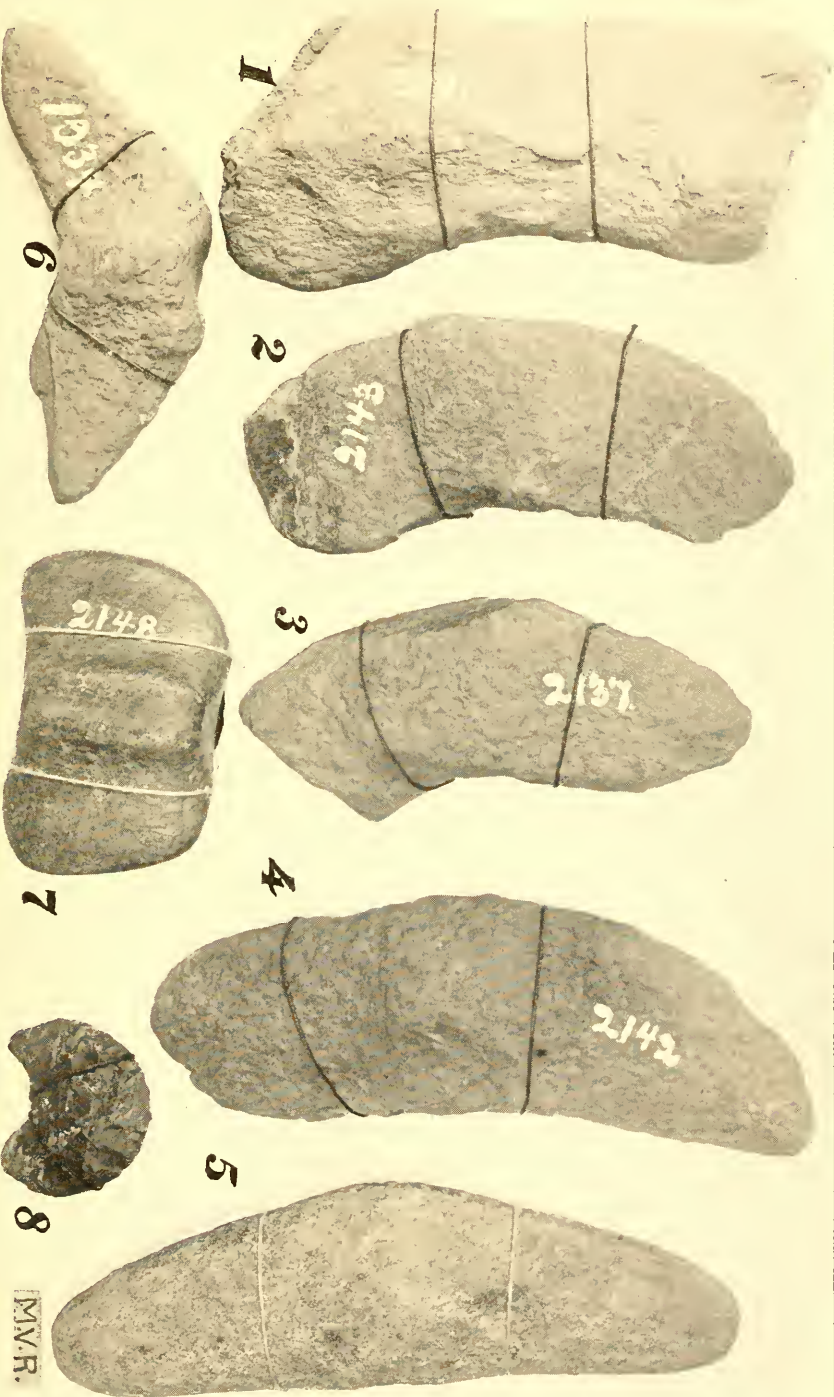


Plate IX. Size two-thirds. Evolution of a "butterfly" Cerynoid. Lancaster County, Pa. The Alfred R. Perin collection, in Wyoming Historical and Geological Society. Wilkes-Barre, Pa.

were mounted for use on a staff, on a handle as a ceremonial weapon or on the stem of a calumet."

Col. Jones, to whom I have referred quite often in this essay, writes: "After a careful examination of a large number of these perforated axes, we are under the impression that most of them were carried as matters of ceremony, ornaments, or distinction; and it may be that the American war-chief suspended from his belt one of these delicate implements, and regarded it with emotion near akin to those which possessed the breast of the Scandinavian warrior as he cherished and displayed his *victory-stone*."

"The use of these stone axes was abandoned very shortly after intercourse was established between the red-man and the white traders. Even in Adair's time—who wrote in 1775—such implements were rarely to be seen, and those which had escaped interment with their former owners were carefully preserved by the old people and regarded as respectable remains of antiquity."

The great majority of them are made of a soft material, but now and then specimens made of a hard, tough stone are found. Banded slate and steatite seem to have been desirable material. Their round, clean perforations have been carefully bored through the centre or rib part. Holmes seems to think that they "were probably as a class the outgrowth of the remarkable culture development which accompanied and resulted in the construction of the great earth-works of the Mississippi valley."

They are taken from graves, mounds, and the sites of aboriginal encampments. Dr. C. C. Abbott, who it appears originated the name of "banner-stone," which has been applied to these nicely made and fragile objects, says: "The love of display that has survived the changes in human culture and which is witnessed in some civilized communities in all the glare and glitter of barbarous times, was and is a marked trait in the character of the American aborigines.

And although in their painting there is nothing but harshness and most violent contrasts of gay colors, and in their pipe-sculpture but little to commend, we nevertheless have, in the series of stone relics which we have here called 'banner stones,' a beautiful illustration of the fact that symmetry could be obtained in more complicated forms than the shapes of arrow-points; and elegance of design and accuracy in details were sought and acquired by this untutored race, their banner stones being the more remarkable in that they are frequently of hard stone, to fashion, carve and polish which the only tools available were those of the same material."

The "banner-stones" shown on Plate VIII, are all of them of an unusual or rare shape. They are all made of a greenish colored banded slate. Fig. 1 is a reel-shaped specimen which has a smooth orifice through its center which is its thickest part. Both of its edges are curved inward, and instead of being sharp are rounded. It was found on the surface in Hardin County, Ohio.

Fig. 2, a winged or horned object, partly broken, shows fine workmanship. Through its middle part has been drilled a smooth perforation. It appears to have been used in a rough manner. Its edges although nicked, are still sharp. It was picked up in Stanley County, Ohio.

Fig. 4, of same form, and perfect, is a finely made implement with a smooth orifice through the centre, which is its thickest part. Both of its edges are curved inward, and instead of being sharp are rounded. It was found in Hardin County, Ohio.

Fig. 5, evincing rather rough treatment, because of its shape has been called a double crescent. A smooth hole extends through its central part. A perfect specimen of this form is figured by Holmes, and one also by Moorehead. It was picked up near Findlay, Ohio.

Fig. 11, similar in form to a pick-axe, having sharply

pointed ends, is a gracefully formed and finely made implement still in a perfect condition. Though its centre has also been drilled a smooth hole. It was found in Sante Fe, Indiana.

Fig. 13, a very attractive and finely polished, banded winged ceremonial, in form almost elliptical is also smoothly perforated through its prominent central ridge. One of its wings is sharply pointed, while the other has a sharp contracted edge. The wave-like bands on the relic give to it a drawing appearance. It was found near Sandusky, Ohio.

Fig. 15, an axe-like looking object, with a smooth central perforation was found near Elmira, Illinois. Its straight edges instead of being sharp are rounded.

Fig. 16, is one-half of a crescent shaped implement, of rare and unusual form, finely polished and with a knob-like end. It is also smoothly drilled. When perfect the distance between the knob-like ends measured five and one-half inches. It was also found near Elmira, Illinois. An attempt to force into the hole a handle, was no doubt the cause of its destruction.

Drilling in stone as done by the American aborigine is so difficult in performance, and yet so often a successful operation as to entitle it to a place in the fine arts, which is proved by the great number of finely bored specimens found in museums both public and private. He was master of the art of drilling, but before he began to drill the hole through the specimen he saw to it that it was complete and perfect even to polishing.

Wilson, in "Prehistoric Art," says: "He seems to have been able to toy with his art and perform it in any way he pleased. He drilled large holes and small, he used hard drills and soft, the latter even of pine wood. He used hollow drills as well as solid, and we have cores that have been drilled from one or both sides with a straightness and evenness that seems marvelous. He was able to start his drill on the smooth and polished surface of a hard stone,

apparently without any wobbling of the drill, leaving the edge of the hole as smooth and sharp as though it had been afterward reamed and turned. The prehistoric objects found in the mounds of the United States are of even finer workmanship and more artistic than is usual in Europe.

J. D. McGuire, in "A Study of the Primitive Methods of Drilling," writes that: "Implements of every period, of every race, of every country, show conclusively that man, from the earliest time of which we have any knowledge of him has been an adept in the art of perforating. Whether the material to be perforated was skin, wood, bone, shell, ivory or stone, the means to pierce them appear to have been forthcoming as soon as the necessity for doing so was felt."

The perforations in the specimens which the writer has figured are executed with such accuracy and skill as to cause wonder. Many who have carefully studied these artifacts, declare that the means employed in their production have not yet been satisfactorily explained.

A great variety of opinion exists as to the manner of procedure by prehistoric people in drilling their stone implements. Dr. Rau, who wrote "Drilling in Stone Without Metal," writes that many of the perforations in stone objects were drilled either with a hollow cylinder, or a solid stick of wood. "It is," he says, "hardly necessary to state that without the application of water and hard sand, drilling with either implement, hollow or solid would have been impossible, and that the sand is to be considered as the chief agent in the process."

"The awl," says McGuire, "is the most primitive perforator, yet the straight shaft, revolved between the outstretched palms of the hands, may be said to be the most primitive drill."

"As a general rule primitive people worked the shaft drill, the material of which was a flinty pointed stone, by holding the object it was intended to bore between the feet or the

toes according to the size of the article to be perforated. If the shaft is horizontally manipulated, one hand holds the object; if, however, the shaft is perpendicular it must be held between the extended palms of the hands."

"It would naturally be supposed that a people possessed of bows and arrows would have discovered the principle as well as the uses of the different drills, yet the writer finds no early traveller who refers to the aborigines of America using other than the plain shaft drill. Had other drills been employed by the natives someone would almost inevitably have referred to them as they repeatedly have done to the shaft drill, yet to the writers knowledge no one has done so."

A number more of these interesting, and at the same time mysterious implements are shown on Plate X.

Fig. 2, a winged specimen of mottled steatite, with central perforation and sharp edges was found in Lancaster County, Penn'a. It is five and one-half inches long and two inches wide.

Fig. 3, made of diorite, and also winged has been pecked into shape. Its edges are rounded. Instead of a perforation it has on its under side a shallow depression. It is five and one-quarter inches long, and two inches broad. It was found in Berks County, Penn'a.

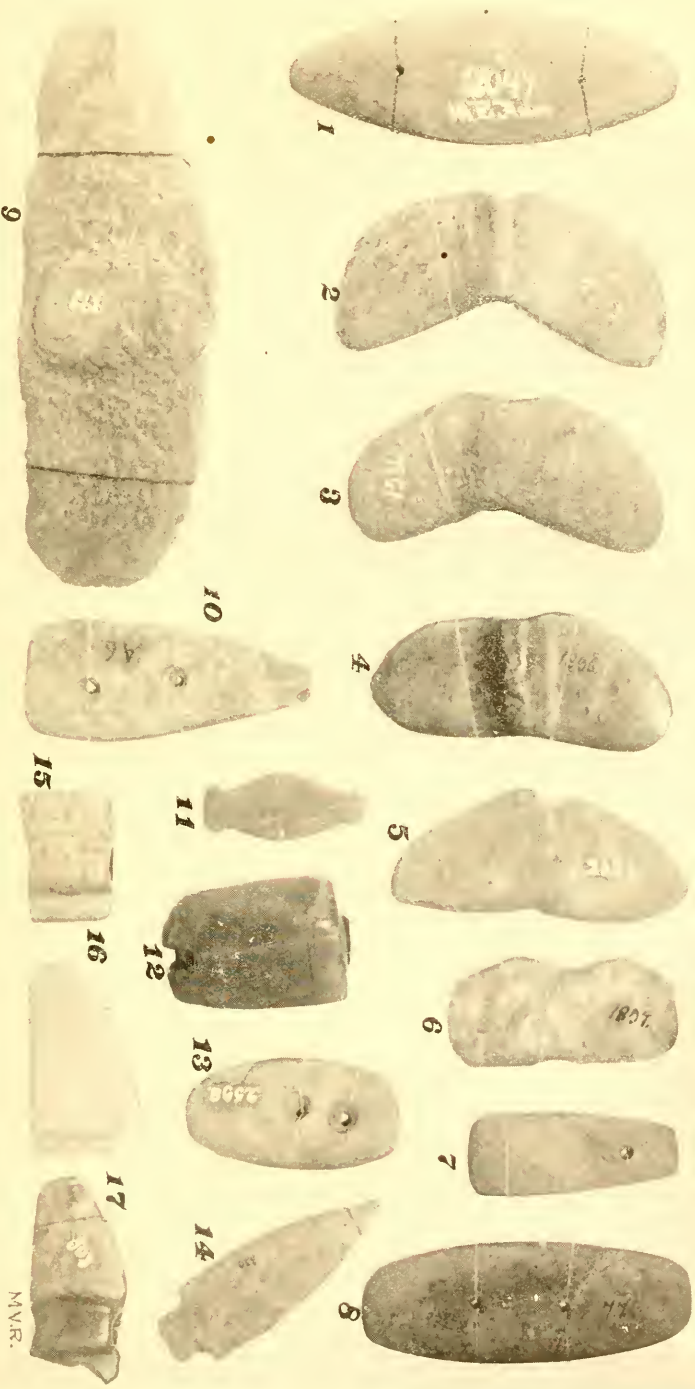
Fig. 4, a polished object of greenish soapstone and wanting a perforation was found near Riegelsville, Pa. It is five inches long and two and one-quarter inches wide.

Fig. 5, a specimen made of slate, has a shallow groove on one of its sides, while on the other side, and running parallel with it through its centre is a ridge. Its edges almost pointed, are sharp. It is five inches long, and in greatest width two inches. The writer found it at Allentown, Penn'a.

Fig. 6, one-half natural size, also made of slate is encircled by a shallow groove. Its edges are rounded. It was also found at Allentown.

Fig. 9, a curiously shaped relic having on each of its sides a truncated elevation measuring two by two inches and made of micaceous slate, was picked up by the writer near Reading, Penn'a. Considerable peck-work is shown upon its surface. Its edges which show no sign of interference are sharp. Because of this its aboriginal maker may have thought it unnecessary to do more work upon it. It is nine and a half inches long, and three and one-quarter inches broad.

Fig. 12, a finely polished winged specimen of greenish colored soapstone has a smooth perforation through its sharply ridged centre. It is three inches long, two and one-quarter inches wide, and its edges are sharp. To this relic is attached a most interesting story. It was given to the writer about thirty years ago by a gentleman then seventy-two years old, whose grandfather, one of the first settlers of Lehigh County, Penn'a, had it given to him by a Delaware Indian loaded with skins and furs, who was then on his way from the Kittatinny or Blue Mountains on the North to the Moravian town of Bethlehem, for a small quantity of tobacco. Was this object a fetich, a luck-stone the possession of which caused the owner to be fortunate in the hunt? Did he carry it to keep away bad spirits, or for protection from danger in some form or other? Did he use it in the forest in a ceremony in which he addressed the "Great Spirit?" Why, after being crowned with success in his hunting expedition, was he willing to part with this to him precious relic for something having so little value? Was its supernatural power spent after the hunt? The American Indian believed that tobacco was of Divine origin, coming as a direct gift for his special benefit from the Great Spirit, who himself was addicted to the habit of smoking. Therefore, appreciating the divine gift, as he thought from the white man, he gave to him in return that which he most valued.



M.V.R.

Plate X. Size one-fourth. All Eastern Pennsylvania. The Alfred P. Berlin collection, in Wyoming Historical and Geological Society, Wilkes-Barre, Pa.

Fig. 15 is a very pretty, perfect and polished specimen of a green mottled steatite which was found in Berks County, Penn'a. It is also perforated. Its central ridge is quite broad and flat, and its wings, one larger than the other, have rounded edges. It is two and one-quarter inches long and one and one-half inches wide.

Fig. 16 is one-half of a finely formed implement of slate in the perforation of which can plainly be seen the circular striae caused by sharp sand, used either with a solid or hollow wooden drill. It has a very sharp edge. It is three and one-quarter inches long and one and seven-eighths inches wide.

Fig. 17, also winged and showing a very prominent rounded central ridge, is made of a dark-green soapstone. It is nicely polished. Its perforation measures in diameter five-sixteenth of an inch. Its present length is three inches and it is one and one-half inches broad. It was found near Slatington, Penn'a.

On Plate XI, along with other polished artifacts, are figured a few more interesting so called "banner-stones."

Fig. 4, a many sided and pointed specimen without a perforation is made of a reddish, banded fine grained sandstone. It is three and one-half inches long, one and three-quarter inches broad, and was found near Crawford, Mississippi.

Fig. 5, the material of which is slate is similar in form to Fig. 13 on Plate VIII. It is three and one-half inches long, and one and seven-eighth inches wide. It was picked up in Oktibbeha County, Mississippi.

Fig. 11, a hammer-like looking object, finely polished, with an oval perforation not often seen, is made of a grayish fine grained sandstone. It was found in Mansfield County, Ohio, and is shown on plate as one-half natural size.

Fig. 16 is a magnificent, many sided, pointed, polished and perforated specimen made of a dark-red, close-grained

sandstone. The writer has never seen a ceremonial like it. It is two and one-half inches long, one and one-half inches wide, seven-eighth of an inch thick, and its smooth and sharp edged perforation has a diameter of one-half inch. It was found near Crawford, Mississippi, from which State came so many of the fine objects in this splendid collection.

Fig. 17, an angular relic, polished but without perforation, and made of a reddish close-grained sandstone, is two inches long and one inch broad. A small depression, the beginning of a perforation, can be seen on one of its sides. It was found in Jasper County, Missouri.

An axe-shaped, drilled implement, of dark fine-grained sandstone, and with sharp slightly curved edges can be seen as Fig. 20. It is two and three-eighth inches long and one and one-eighth inches wide. It was also found near Crawford, Mississippi.

Fig. 9 is a broken specimen of red fine-grained sandstone. Considerable rubbing with sand, which the many fine lines on the object reveal, indicate an attempt to make out of it a different implement. It was found in Winston County, Mississippi.

Boat Shaped Objects. These are implements of polished stone, often perforated, the use of which is unknown. The drilled holes show no signs of wear. It is to be regretted that the early settlers of the Western World took so little interest in the implements which were used by the aboriginal people, after they landed on our shores. The historian Lawson remarks: "'Tis a great misfortune that most of our travelers who go to this vast continent of America are persons of the meaner sort, and generally of a very slender education, who, being hired by the merchants to trade amongst the Indians, in which voyages they often spend several years, are yet at their return incapable of giving any reasonable account of what they met withal in those remote parts; though the country abounds with curiosities worthy of a nice observation."

One would think that the Moravian missionary Heckewelder, who lived for so long a time with the Delaware Indians, should have something to say about the implements of these interesting people. Not one word does he write about their tools in his very interesting production, "Indian Nations," which contains so much other valuable information pertaining to them. One is very much impressed on account of this singular omission while reading his book.

Fig. 6 on Plate VIII, is a perfect and finely polished, banded boat-shaped object. It has a funnel shaped perforation at each end. Into its flat side has been worked an oval cavity, one-half inch deep. The other side is rounded. It is two inches long. It was picked up near Granville, Ohio.

Fig. 10, Plate XI, shows another polished object belonging to this class which is made of red fine-grained sandstone. One of its funnel-shaped perforations is missing. A deep groove has been cut into the flat side of the specimen. An attempt to polish the broken end with sand is plainly visible. It has a flat bottom which in its length is curved. It was found in Winston County, Mississippi, and is two and one-quarter inches long. Wilson, in writing about these problematical objects says: "It has been suggested that certain of them of the plainer kind were twine twisters, handles for carrying parcels, or for tightening cords or lines. A Mohawk medicine woman declared them to be amulets or charms to enable the witches to ferry themselves over streams of water. If this object should be lost, it was believed that her power of flight or passage was gone."

Fig. 11 on Plate X, is a thin, flat, fish-shaped, polished ornament made of a micaceous stone. It is two and three-quarter inches long, and one and one-quarter inches wide at its perforation, which shows no signs of wear. Through its centre, and only on one side extend from head to tail three parallel ridges. The incised lines radiating at two points from the upper and lower lines may have been meant

for fins. The glistening particles in the stone may have attracted its Indian maker who fashioned out of it this very fine and interesting problematical specimen. It was found at Joanna, in Berks County, Penn'a.

Fig. 8, Plate XI, is a double perforated mammiform object, the material of which is a reddish fine-grained sandstone. The perforations entering its flat side are funnel-shaped and are one-half inch in diameter. It is one and seven-eighth inches long and one inch thick. It was found near Crawford, Mississippi.

Fig. 1, on Plate XI, shown one-half natural size, is a finely made shuttle-shaped implement of reddish close-grained sandstone. The edges of the smooth perforation are now as sharp as when made. Nowhere on it can be seen signs of use. It was found in Mifflin County, Ohio.

On Plate XI, Figs. 13 and 19, are figured two flat perforated discs, both one and one-quarter inches in diameter, and one-quarter of an inch thick, prehistoric specimens, which were picked up near Dublin, Ireland. Fig. 13 has engraved upon its sides a number of incised lines radiating from its perforation. Between these lines are placed a number of dot-like depressions. Professor Sven Nillson calls them ornaments, while Sir John Evans who seems to think they were used as spindle-whorls, has the following to say of them: "The distaff and spindle remained in use in many parts of this country until quite recently, and are still commonly employed in some remote parts of Britain, as well as over a great part of Europe. To how early a date this simple method of spinning goes back we have also no means of judging."

"In spinning with the distaff and spindle, the rotary motion of the latter is maintained by a small flywheel or spindle-whorl very generally formed of stone, with a perforation in the centre, in which the wooden or bone spindle was fastened, the part below the whorl tapering to a point

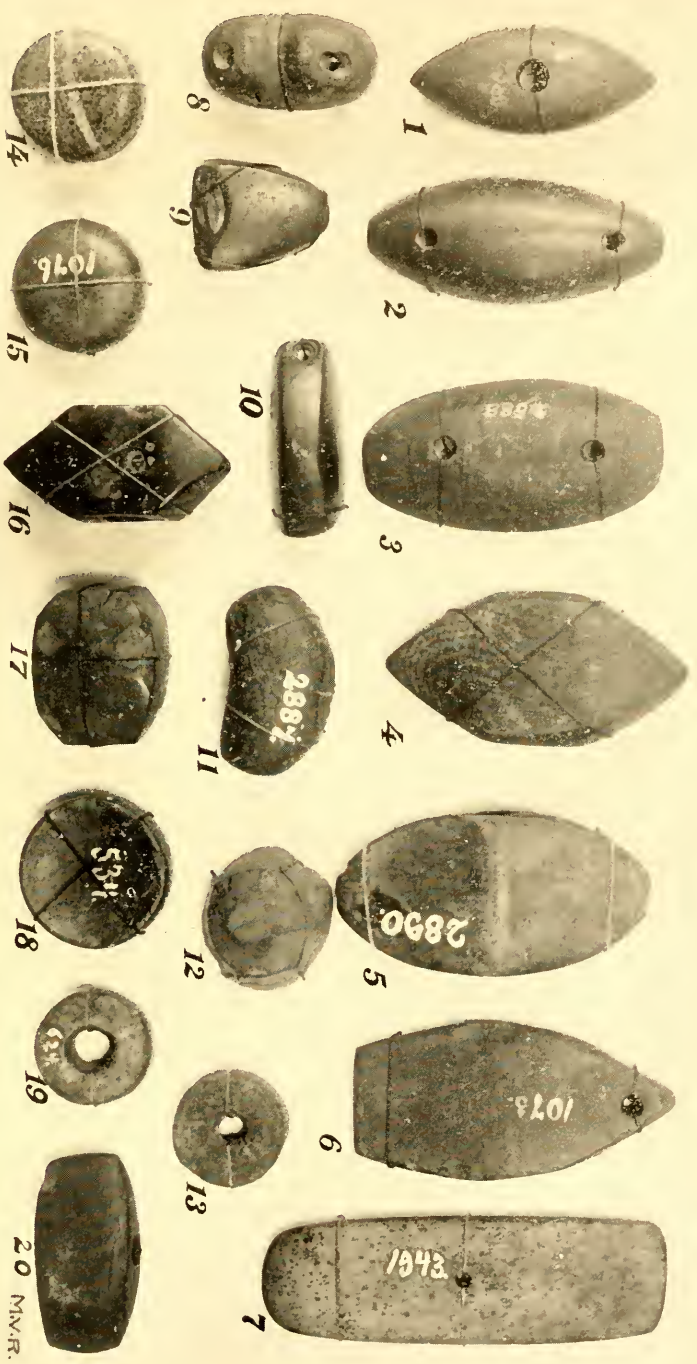


Plate XI. Size one-half. Problematical forms. Middle West. The Alfred P. Berlin collection, in Wyoming Historical and Geological Society, Wilkes-Barre, Pa.

so as to be readily twirled between the finger and thumb, and the part above being also pointed, but longer, so as to admit of the thread when spun being wound round it, the yarn in the act of being spun being attached to the upper point. These spindle-whorls are, as might be anticipated, frequently found in various parts of the country; and though from the lengthened period during which this mode of spinning was practiced, it is impossible, under ordinary circumstances, to determine the antiquity of any specimen, yet they appear to have been sufficiently long out of use for local superstitions to have attached to them, as in Cornwall they are commonly known by the name of 'Pisky grinding-stones' or 'Pixy's grindstones.' In North Britain they are also familiarly called Pixy-wheels, and in Ireland 'Fairymillstones.' In Harris and Lewis the distaff and spindle are still in common use, and yet the original intention of the stone spindle-whorls, which occur there as elsewhere, appears to be unknown. They are called adder-stones, or snake-stones, and have an origin assigned them much like the *ovum unguinum* of Pliny. When cattle are bitten by snakes, the snake-stone is put into water, with which the affected part is washed, and it is cured forthwith. This is the less miraculous from there being no venomous snakes in the island." The perforations on both objects are still sharp, and on them no signs of wear can be seen. In this country they are classed with the objects which we term ornaments.

Spuds. This name, a misnomer, has been given to a finely polished and little used problematical spade-like implement, which is often symmetrically formed, and in most all cases made of a hard and tough stone. A fine specimen of this class is shown on Plate VI, as Fig. 2. It is made of greenstone, well polished, is five and one-half inches long and four and three-eighth inches broad. Its perforation, done from both sides, is situated in that part of the relic

which might be called the handle and which is squarely cut. Its circular edge is still sharp. The hole is a distinctive feature of the short and broad forms which are mostly found in the Southern States, although they are not plentiful. It was picked up from the surface near Crawford, Miss. Col. Jones in his "Antiquities," etc., figures a similar specimen, which he calls a "most elaborate scraper." Its edge was much worn by continual use. The implement is also well polished.

Squier and Davis, "Ancient Monuments of the Mississippi Valley," place this form of implement among ornamental axes.

Our implement shows no signs of wear about its perforation. It has not the strength for rough usage. It was undoubtedly used as a weapon of ceremony, as were so many of these other drilled and polished mystical artifacts which now grace our public and private museums. They are as a class a graceful and beautiful object, and with their fine polish they represent a high type of the art of our aboriginal people.

Perforated Tablets. Col. C. C. Jones says truly of these problematical objects, many of which are so finely made this: "Various as the fancies of the maker are the shapes of these relics, which we think were intended as ornaments, and were suspended from the neck or fastened to some conspicuous part of the vestment."

Dr. Abbott, "Stone Age in New Jersey," writes: "On the site of ancient Indian towns throughout the whole State, or wherever evidence occurs of a fierce battle, and in every grave we have opened, are found tablets of easily-worked stone, varying in length and outline, and, as a rule, carefully polished and perforated with one, two, or more holes. Such stone ornaments—and they were intended merely as ornaments—we have called 'breast-plates,' because found lying near the breast of skeletons in the graves which we have

examined, or 'gorgets,' a good name for them suggested by Squier and Davis." They are a numerous and widely distributed class of prehistoric perforated implements with holes usually countersunk from both sides. "Those with one perforation placed near the end," says Holmes, "may be classed as pendants, while those having two or more holes were probably fixed to some part of the costume, or to some article of ceremony."

Fowke writes, Thirteenth Annual Report of the Bureau of Ethnology: "It is said that the Miami Indians wore similar plates of stone to protect their wrists from the bow-string. Herndon and Gibbon remark that a gold ornament in shape like a gorget, but not pierced, is worn on the forehead by some of the Amazon Indians. According to Schoolcraft the so-called gorgets were sometimes used as twine-twisters. Stevens, (author of *Flint Chips*), is even more conservative, holding that they were neither twine-twisters nor devices for condensing sinews or even bowstrings, as they show no marks of wear in the holes."

Sydney S. Lyon who explored ancient mounds in Kentucky writes the following about a pierced tablet in "Smithsonian Report for 1870:" "I have seen this kind of an instrument used by the Pah-Utes of South-eastern Nevada, for giving uniform size to their bow-strings." That the aborigine in the use of the bow needed some form of protection for the left wrist is obvious. This guard was not, however, made of stone. He used a softer material which could be better handled. Rawhide, once fitted around the wrist and tied would keep its shape when dry, and buckskin, soft and pliable would serve even better. Neither did it require much time to fashion a protector of this kind.

Plate XIV, from De Bry's "*Brevis Narratio*," published in Latin in Frankfort-on-the-Main in 1591, which picture was drawn from life by one Jacques Le Moyne, a French artist, in 1564, represents an Indian army on the march. In

the foreground are three Indians, probably chiefs well armed. The central one carries in his right hand an arrow, while the bow is grasped with the left. Around the wrist of this left arm is fastened with two straps a guard of some soft material. It reaches from the wrist almost one-half of the distance to the elbow. See "The Indian and the Mammoth." by Henry C. Mercer.

None of the perforations in the specimens which the writer is about to describe show any signs of wear. He has examined carefully many in other collections with the same result. The only exception is a twice perforated rare implement from Repaupo, N. J. It is nicely polished, has beveled sides which is of rare occurrence, and its four edges are serrated which gives it a saw-like appearance. It is flat and thin; almost four inches long, and one and five-sixteenth inches wide. Its two holes are much worn.

A highly polished relic of banded slate having one orifice is shown as Fig. 3, on Plate VIII. Its sides form a long ogee curve. Its top part is slightly curved, and its lower end almost forms a circle. It is four and one-half inches long and two and one-half inches wide at broadest part. It was found in Jay County, Indiana.

Frank Cushing, an archaeologist of note while living, after a careful study of this object, while resting in the museum of the University of Pennsylvania, concluded that it as well as other flat pierced tablets, served as bases for the bird-stones and other ceremonial weapons. He shows this specimen and the bird-stone shown in Fig. 10 on same plate resting on its flat surface in his memoir: "The Calumet, &c., &c."

Fig. 12, same plate is a "spud" shaped pendant of greenish colored slate well polished. Its perforation at one end is countersunk on both sides, and no sign of wear is seen upon it. It is five inches long and it came from Rushsylvania, Ohio.

Fig. 14, rectangular in form, well polished with long sides slightly inclined inward is a thin, flat object of banded slate. It has three small holes drilled from each side none of which show signs of wear. Tablets drilled three times are of rare occurrence. It is three and one-eighth inches long, one and one-half inches wide, and it was picked up near Sidney, Ohio.

Fig 1, Plate X, is a fine, large, flat ovate ceremonial of reddish colored slate. It has been perforated from both sides. Both of its straight ends are sharp. It is six and one-half inches long, and two and one-quarter inches broad at its central part. It was found near Oshkosh, Wisconsin.

Fig. 7, same plate is a flat very pretty so-called polished pendant, having one hole drilled from both sides near its smaller end. It was picked up on the edge of a large spring near Schnecksville, Penn'a. The material, a light greenish colored, banded slate from which it is made is foreign to this part of country. Banded slate is found in States bordering on the Mississippi from which section it must have been brought here by a roving aborigine. "We have here evidence that in prehistoric times there was carried on an extensive aboriginal trade, if not one of peace, then by the more forcible one of conquest, in which the victor took from the vanquished that which appeared to him the most useful or ornamental. The subject of primitive commerce is of particular interest because it sheds additional light on the conditions of life of our aboriginal people. In many cases, however, these artifacts may have been brought as booty, and not through trade to the places where they are found in our days. The modern Indians, it is well known, sometimes undertook expeditions of one thousand or twelve hundred miles in order to attack their enemies. The warlike Iroquois, for example, who inhabited the present State of New York, frequently followed the warpath as far West as the Mississippi River. The traveller Carver was told by

the Winnebago Indians, who then lived in that section of country now embraced in Wisconsin, that they sometimes made war excursions to the southwestern parts—then Spanish possessions—and that it took months to get there.”

Fig. 8, Plate X, a rectangular object with long edges slightly curved outward, is a nicely made, twice perforated slate specimen from Macon County, Missouri. Its end edges are sharp. It is five and one-half inches long and two inches wide.

Fig. 10, Plate X, an object of slate and in form irregular with two funnel-like perforations on one side, was found near Schnecksville, Penn’a. It is four and three-quarter inches long, and at widest part two inches broad.

Fig. 13, Plate X, an uneven and rudely made specimen of sandstone almost oval in form was picked up by the writer at Allentown, Penn’a. The funnel-shaped holes measure one-quarter of an inch in diameter. It is three and five-eighth inches long and two and seven-eighth inches broad.

Fig. 2, Plate XI, is an oval, highly polished specimen, twice perforated and made of a yellowish fine-grained sandstone. Its ends are squared. It is convex on one side and deeply hollowed out on the other. It might be classed with the boat-shaped forms. It is three and one-half inches long, one and three-quarter inches wide. It was found in Neshoba County, Mississippi.

Fig. 3, on same plate, of banded slate, and of similar form, with two holes bored from both sides was found at Pember-ton, Ohio. It is three and one-half inches long and one and three-quarter inches wide.

Fig. 6, a flat pendant of reddish close-grained sandstone, with a perforation at the pointed end was picked up at Crawford, Mississippi. Its long sides are convex. It is shaped one might say, like a sad-iron. It is three and three-quarter inches long, and one and seven-eighth inches wide.

Fig. 7 is a long flat slate object with but a single hole which is placed almost in its centre. Its long sides are almost straight. The upper end is square, while the lower which is curved is very sharp. It is highly polished. It is four and three-quarter inches long, one and one-half inches wide, and was found near Grassy Cove, Tennessee.

CONCLUSION.

My readers have noted that the many finely wrought implements shown on the numerous plates in this work were made in the South and West, where it is said the finest specimens are to be found. It is also explained that in that section is to be found in great quantity the fine and attractive material from which all these pretty objects have been made. The Aboriginal people, especially those of the South and Southwest when met by the whites were already stationary (were builders of towns and villages, and cultivated large tracts of land, as has already been noticed. They were living in a territory where they were more or less exempted from trials incident to a cold climate. Living thus in an easy manner they became pleasure lovers, "and devoted much of their time to amusements and social enjoyments, and to the development of a degree of taste and skill in manufacture superior to that exhibited by their more savage northern neighbors." So says Col. Jones. Living thus an easy life, there may have developed amongst them artistic workers in stone, who devoted their whole time to the manufacture of implements, and, as from time to time they accumulated a quantity they would leave their homes and visit intermediate regions for the purpose of exchanging them for such desirable articles not readily obtained in the locality where they resided.

Nature, it is true, was not as kind to their Northern neighbors, who lived in a territory covered for months with deep snow. Nor was there available the material having such fine texture, yet there can be seen in all collections

artifacts made by these more savage people, which are equally as artistically formed as those of their more civilized neighbors. The Northern Indian, although only a hunter and fisher, and but little of a farmer, also knew how to work in stone.

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THE REMINISCENCES OF
GENERAL ISAAC JONES WISTAR, U. S. A.,
VICE PRESIDENT SUSQUEHANNA COAL CO., 1869-1903.

READ BY GEN. CHARLES BOWMAN DOUGHERTY BEFORE THE WYOMING HISTORICAL
AND GEOLOGICAL SOCIETY, APRIL 14, 1916.

Some years ago in the United States Senate, a Senator in his advocacy of a bill for the relief of the widow of an officer of the Civil War, among other things which he said about the officer, stated that he was the bravest man that ever lived. This remark arrested the attention of Senator Wolcott of Colorado, himself a scholar and a student, as well as an early pioneer of Colorado; and Senator Wolcott then said that in the records of history of brave men, the bravest man he knew of was Benvenuto Cellini. Not every Senator in the United States Senate knew who Benvenuto Cellini was, and some of them had never heard of him. Senator Wolcott, by his intervening remark, sent many a Senator to the public library and other places to learn something about that wonderful man, to ascertain if he was as great and as brave as Senator Wolcott said he was.

In the history of the pioneers of America is written the story of many brave men, both civilians and soldiers, who have helped to blaze the path of progress across the great plains to the Pacific; who have not only endured great hardships but have blazoned their names high upon the pages that unfold the story of the conquest of that great empire of the West. So when, in this paper, there is unfolded to you some of the story of the life of General Isaac Jones Wistar, with which I couple the declaration, that to me he has revealed the strength and character of one of the bravest men that ever lived, I speak of him in a sense in which I have had disclosed to me, not only from the knowledge that I have had of him during his life personally, but from the record as written by him in his autobiography, a copy of

which, through the courtesy and compliment of the Wistar Institute of Anatomy and Biology of Philadelphia, I am in possession. And when I put him in the category of brave men, I do not forget Benvenuto Cellini, Alexander Selkirk, Captain John Smith of Virginia, Marcus Whitman, Lewis and Clark, John C. Fremont and hundreds of others—not even Benjamin Smith, “Soldier of the Revolution”, a sketch of whose life appears in Volume XII of the publications of the Wyoming Historical and Geological Society.

The biography of any man’s eventful life in any domain of existence always furnishes one with a peculiar and rare form of entertainment, because, if worthy, such biography legitimately treats of the peculiarities of the man and the life with which it deals. History, although it may have its lighter touches and some fanciful moments, is essentially sober, but biography, although it may never be dull or uninteresting, may touch vividly upon the great, strong human and passionate things that rule the natures as well as the lives of men. So, when one reads the story of a virile life, and a great career, one is apt to be fascinated with the wonder of it all, and marvel how one life, from the cradle to the grave, could compass so much that is stirring, romantic and seemingly almost beyond human capacity.

Some of you may be wondering what all this has to do with this environment and this Historical Society, and local history. An excerpt, which I cull from the early pages of General Wistar’s reminiscences, and will later read, tells of how, as a boy, he came down the Susquehanna river on a raft, in 1846, from Towanda, and stopped over night in Wilkes-Barre. Preliminary to his enforced visit, he tells how, at the age of seventeen, he was placed by his father in a Market street dry goods store in Philadelphia, under the tutelage of a couple of old thrifty New England Quakers, whose sanctimonious deportment and Godly nasal twang, he tells us, indicated an amount and pressure of piety which it was hoped might overflow plenteously on him, and fill

him to the extent of emulation, with admiration of commercial holiness. But he seemed to be possessed with an unconquerable perversity. He hated the business, and wickedly despised those devout men, inasmuch as their scruples allowed ostentatious admixture of week-day meetings and other devotions, with more carnal affairs to work off their wares on the Godless Egyptians of the country districts. So, after a year of disappointments, in which he received no wages, he withdrew himself from the inestimable services as sweeper, folder and messenger to the exemplary pietists, whom his sinful mind was incapable of appreciating.

His natural roving disposition led him to the wharves of the city where daily he trudged up and down, hanging around all the long-voyage skippers to see if he could find a place where he might offer his priceless services as a cabin boy. Failing in this, he went to work on a farm, and when the season's work was over, near the end of the year 1846, he agreed with a friend of his own age, a lad in a neighboring country store, who was then being pampered on the magnificent salary of \$6.00 per month, to spend the winter on a pedestrian and exploring tour through the back counties of Pennsylvania. His friend, young Amos Little, possessed a capital of \$25.00, but young Wistar had only \$5.00, and with a peculiarity showing itself thus early in his life, and which was an indication later of his strong character, he pre-emptorily demanded that the surplus wealth of young Little should be left behind so that they might start on an equal footing. They stole a ride on a train from Philadelphia to Columbia, where they took passage on a canal boat with a drunken skipper who was returning to Bellefonte for the season. So they worked their way, like the Irishman, on the canal, by walking the tow path and driving the mules. Whenever they wanted a loaf of bread or any other small article they had to scuffle for it, and even take it from the pocket of the drunken canal boat Captain by force. In the

course of a few days, in a constant state of semi-starvation and fighting for food, they arrived opposite a fine large farm at Selinsgrove, abounding with poultry and all sorts of agricultural products. Before that vision of rustic wealth and food, all of the carefully instilled principles of morality of young Wistar and young Little broke down in a confused and tumbling ruin. So after mature reflection upon the best way of filling their stomachs without filling the jail, they procured some corn from the field, scattered it along the bank, across the gangplank, down into the empty hold, and after while, shut down the hatches on the entire flock of poultry and started off with chickens enough to last through a long and cheerful vista of future plenty. Many, many years afterward, when young Wistar, grown to manhood, and after an eventful career, he had, in 1865, organized and brought together under one great system all the canals of Eastern Pennsylvania, extending from Wilkes-Barre down the Susquehanna river to Harve de Grace, and up the Juniata, including the one on which he had started out as a driver boy, together with all the canals of the eastern counties; his boyhood fellow rover, Amos Little, became a director in one of the greatest railroads in the world, the Pennsylvania. And long, long after both had personally sown the last of their wild oats and had become sober and substantial citizens, when time had whitened their thinning locks and sobered much of their view of affairs, and men, they were chosen and sat together on the famous "Committee of Thirty-one" selected by the citizens of Philadelphia in the vain effort to construct a decent administration of public business from such material as was offered by greedy demagogues, venal officials and purchased voters. Wistar took the opportunity of relating this story, and he whimsically commented upon the fact that this great and dignified committee, charged with providing the plan for the redemption of the city, should have had in its membership a couple of whilom chicken thieves.

After a voyage of three weeks they reached Bellefonte and tramped across the mountains, hiring themselves out to cut a road designed to connect Erie and Jersey Shore. They finally reached the conclusion that they were in a very rough and unsettled country, and the following is the chronicle of their passing through Wilkes-Barre:

"Entirely convinced now that no large or immediate fortune was to be had by hunting, we started East on the main wagon road which led through Wellsboro to Towanda, working a little in saw mills by the way. At the last named place, on the North Branch of the Susquehanna, we found a large lumber raft with eight or ten hands, about to start down the river, upon which we agreed to work our passage to Wilkes-Barre. At a point a few miles above the place the raft grounded near midnight on the opposite side of the river. As the skipper had already repudiated his undertaking to land us at Wilkes-Barre on the alleged ground of this same danger, we were now for taking advantage of the opportunity to get ashore and take the chance of being able to get across to the town, but he begged so piteously that we would not leave him in his plight, with the danger of losing his raft, that we remained working, prying and tugging with the rest, sometimes in water up to our middles, till at last the raft was got afloat. When we passed Wilkes-Barre, soon after, the skipper pretended to fulfill his promise by bawling for a boat, but as none came, we were in a fair way of being carried on and past the Nanticoke Dam, but for the kindness of the pilot and crew, who, in spite of the owner's bad faith, skillfully swung the after end inshore so that we could jump off into the slack water of the pool.

"In that manner we got ashore about two in the morning, thoroughly wet, with several inches of snow on the ground and a freezing temperature. Making the best of our way back to Wilkes-Barre, some three miles distant, we could not find any person awake or a single house open. In trying to wake up the inmates of a tavern where a fire-light shone

cheerfully through the window, we pushed the sash loose, which fell in with a tremendous clatter, and feeling that we were strangers in an extremely suspicious position, we foolishly ran away, never stopping until we reached a tavern at the extreme end of the town, where we finally obtained admittance. As the snow kept on falling we lay in bed till dinner-time next day, after which we still more foolishly took advantage of an intermission of the storm to start out for the walk of twenty-five miles over the Broad or Wilkes-Barre Mountain to White Haven on the Lehigh.

"The snow soon recommenced, and all traces of the single wagon road being obliterated, we went astray and when it became dark found ourselves hopelessly lost in a storm of wind and snow on a wild mountain which then boasted but one house between Wilkes-Barre and White Haven, a small cabin occupied by an old man engaged in making shingles. We climbed up and tumbled down ravines and precipices, and waded over and through the brush covered deep with snow, the storm seeming to increase in violence, and it was not till near midnight that in a lull of the tempest we dimly perceived the fire-light shining through the old woodcutter's single window, far off across a deep ravine. We got there at last and obtained shelter, but for which lucky chance, inexperienced as we were, we might very probably have ended our careers then and there. On the next day we got down to White Haven, and following the good wagon road down the Lehigh to Lehighton, below Mauch Chunk, there crossed the mountain and river to Easton, whence we walked down the Bethlehem turnpike to Philadelphia."

General Wistar does not give us the name of the tavern in which he tried to wake up the inmates, but from what we have learned it is supposed to be the old Phoenix Hotel. What the name of the one was, which he speaks of as being at the extreme end of the town, we do not know. We do know, however, the point on the river where the pilot and

the crew successfully swung the after part of the raft inshore so that the two youngsters could jump ashore.

Years and years afterward, when President Roberts of the Pennsylvania Railroad, was making an inspection of their railroad properties, and the coal properties at Nanticoke, of which General Wistar was the Vice President, and in company with the Directors, among whom was Amos Little and Major Stearns, the President of this Society—as the special train and the President's private car swung around the point on the river below Wilkes-Barre and just above the D., L. & W. railroad bridge, at a place formerly known as Butzbach's Landing, Wistar and Little identified the spot where they had jumped off the raft into the slack water of the pool.

This adventure of young Wistar, which brought him to Wilkes-Barre for the first time, is but the thread and the beginnings of a story connected with that eventful career of his, filled as it is with all the glamour of romance, adventure and mighty deeds; and illuminated with some of the nobility that comes to a patriot, though not always free from the sordidness which tinged some of the episodes, blood-curdling even though they might be, when urged on by the passionate animosity that came surging up in those adventures, some of which, even he, would like to have forgotten.

This first visit to the Wyoming Valley was not to be his last, because he came back to it as President of the Pennsylvania Canal Company, and the head of the Susquehanna Coal Company, and by such connection, again got in touch, not only with the industrial life of the valley, but many men knew him, admired and respected him for the things he had accomplished, for the fame he had gained, and the power of his intellectuality. Few of them, however, ever had, even in part, revealed to them the history or the record of the brave deeds and the hardships that lie recorded between the pages of his autobiography. Unfortunately this autobiography is printed only for private circulation, and is limited

to 250 copies, otherwise I think that if the story, told with his keen intelligence and facile pen, could become the property of any who chose to purchase it, it would have a vogue as a biography unsurpassed by the personal narrative of the life almost of any intrepid American.

Let us go back for just a moment and touch upon something of the history of himself, and I do not know how I can better give you a glimpse of the personality of the man, and the times in which he lived, than to quote a portion of the introductory to his reminiscences:

"When one not inordinately addicted to discoursing of himself begins to contemplate a lapse from such negative virtue, though he can easily find plenty of reasons to satisfy a conscience quite ready to yield, a second person is sure to discover among them some few grains of vanity more or less speciously concealed. Nevertheless, there are all sorts of vanity, useful, indifferent and offensive, and if in that broad variet we are to include such foibles as love of approbation, desire to please, or a wish to convey information amusing or useful, in our view, then it must be acknowledged that few intelligent acts of our lives are entirely free from the quality we are all so ready to disclaim.

"It may, therefore, be admitted that it is one of the protean forms of that all-pervading weakness that leads us to regard our own period as peculiarly eventful or important. It is not unnatural and I hope not unbecoming, that when one discovers little that is remarkable in his own career, as must always be the case with most of us, he should find a certain complacency in the reflection that he has at least lived among remarkable persons, or during a specially eventful period.

"Possessing, no doubt, a full share of the common weakness, I nevertheless cannot help thinking that posterity with all its accumulated wisdom will find something peculiarly interesting in that portion of the nineteenth century which has seen such new forces as steam and electricity hunted

down, captured and harnessed into the daily service of man, has reconstructed every branch of human knowledge, created a new chemistry, physiology, biology, geology and physics, has substituted rational and systematic inquiry for the old dogmas of supernaturalism and authority, and has applied each conquest thus obtained over nature and ignorance to such practical purpose as to revolutionize the life of man and separate him farther than ever before from other animate beings and from all other known forms of existence. It is scarcely too much to insist that by the useful application of the new knowledge gained during this comparatively short period, nearly every human habit has been modified and to a great extent changed. We gain our livelihood differently, we work, trade and travel, eat, fight and amuse ourselves differently, are ill and use medical and surgical remedies, differently, have immeasurably increased the activity, comfort and average length of our lives. It is only when arrived at the final article of death that we continue to traverse the identical road of our fathers and sink to rest very much as they did, in the same old way, unchanged since the beginning of life in the world.

“The economic changes in production and distribution during the present generation have of themselves modified nearly all our daily habits, and would require a volume to enumerate and describe. During a period almost momentary, compared with the long centuries of human history, every adult man has had conferred upon him by the new mastery of the several natural forces before referred to, and previously unknown or mischievous, the equivalent of a certain number—perhaps a score—of willing and obedient slaves requiring no food, wages, amusement, or police restraint, always cheerful, willing, ready, who never quarrel over their share of the product, and never offend any moral sense or charitable scruple of their beneficiaries. The augmentation and cheapness of production thus gained, in rendering life easy to the workers, and luxurious to all as consumers, has pushed far back the barrier of the subsistence

limit, for expounding which Malthus was so long derided, and aided by important medical and sanitary discoveries, has increased the population of the civilized races beyond any former experience or prediction. Under such influence, that steadily increasing accession has overflowed into all previously unknown or unused portions of the world, pushing back or exterminating inferior peoples, tending to substitute the more advanced races throughout all continents and islands and converting all available territory everywhere into farms, mines and workshops sustaining and inviting still denser populations.

“Even with the knowledge now possessed, it seems as though the process must go on till within a short time the races who know how to avail themselves of these new agents, and perhaps to discover more, will displace or destroy all others and themselves occupy every useful corner of the world. It is a significant fact, that all these advances re-act and interact upon each other without cessation and with rapidly accumulating force. Every acre reclaimed from the wilderness in Africa, India or Dakota, makes life easier and therefore more abundant in London, Berlin, New York; and every new facility, every new found cheapening of production and distribution in these old centres of population, renders life easier, safer, happier and more abundant in the newest lands won for industry and civilization. Thus even if our civilization has already reached its maximum—which there seems little reason to believe—the new forces already set in motion must go on operating, until in a short time—perhaps within one lifetime—the world as the seat of industry and population must become as unrecognizable to us who are about to leave it, as our existing world would now be to the men of a former century.

“When I was born, and for some time afterwards, there was no coal, natural gas or petroleum used in America. There were no railroads, electric telegraphs or telephones, no steamships, no anaesthetics, no knowledge of microbic

causes and phenomena of disease. Chemistry and metallurgy as now applied to industrial production were almost unknown, and many of the most necessary and cheapest substances now in daily use, like aluminum and Bessemer steel, were either not to be had or only in minute quantities as a curiosity for cabinets. The greatest cities of our country were unimportant provincial towns occupying small fractions of their present areas, and with no greater proportion of their existing populations. Florida and the vast territory then known as Louisiana, now occupied by numerous Commonwealths, had but recently been acquired. California, Oregon, Texas and Arizona had not been acquired at all and the Mississippi river was, with trifling exceptions, the western limit of American population. Wood was everywhere the chief or only fuel. Grain was cut and harvested by hand, and badly ground by small water-powers adjacent to its place of growth. Manufacturing production was mostly by individuals at their residences and only on the minute and costly scale of which such a system was susceptible, and while the requital of labor was infinitely less than at present, the cost of everything in which it was a principal ingredient was so high as to keep out of use many articles now thought essential for ordinary comfort in the humblest households. Owing to the relatively great cost of the modes of transportation then in use, the areas of local distribution were small, and the advance of population clung closely to rivers and natural waterways. Domestic slavery was the social condition of a large part of the country and not only tinged all its domestic habits and foreign relations, but was considered such an indispensable economic and social advantage that even scholars and economists were scarcely permitted to criticize or discuss it.

“Making full allowance for the natural tendency to magnify the importance of our own times, it can scarcely be doubted that the great changes which have thus occurred during a single life not yet spent, although so gradual and

insensible as scarcely to command full appreciation without comparing one distant period with another, have been greater, and have established more radical modifications in domestic and individual life than those of any equal period in former times. But while the average length of comfort of individual life has been sensibly increased, it is yet doubtful whether a corresponding advance has been gained in political knowledge, and it now seems as though the life of nations—or rather of governments—is tending to even greater instability, notwithstanding the general opinion of the eighteenth century publicists that political stability was dependent on popular content, and popular content on popular comfort. Though the prevailing system of gratuitous education does not seem to have accomplished much of real value either in the repression of criminal depredation, or by increasing public contentment, yet popular intelligence due to the activities of surrounding life, has undoubtedly increased, and with augmented public comfort has tended at the same time to render the half-educated masses more critical of political forms, and to supply readier means for demolishing and changing them. Whether, for instance, the modifications effected in our federal constitution—mostly for ephemeral partisan objects—either by deliberate amendment, or by legislative or judicial usurpation, will tend ultimately to augment public contentment or rational liberty, seems at present improbable to me, but must be for another generation to determine.

“Be that as it may, it is for the reasons thus imperfectly sketched, that notwithstanding the well-known tendency to magnify the events of our own times, I must venture the opinion that whatever triumphs of knowledge await our race in the future, and to whatever further modifications in life and habits these may lead, yet posterity, however it may despise our attainments, cannot fail to distinguish the nineteenth century as the beginning at least of the new knowledge and the modern life, and will study its thought,

methods and development with the same philosophic interest that we bestow on the times and the discoveries of Galileo, Copernicus, Harvey, Newton, Watts, Stephenson and Morse."

Surely General Wistar has, in these lines quoted, written in his age and his infirmity, proper reasons other than mere vanity, to write down the story of a personal life filled with adventure.

General Wistar was born on the 14th day of November, 1827, at 786 Arch street, Philadelphia, Pa., and was the oldest of ten children of Doctor Casper and Lydia Jones Wistar. He was related to many families distinguished in the early Colonial annals of Philadelphia. To his mother he pays this tribute:

"It is useless for me to try to enumerate her countless virtues as daughter, wife and mother. Beautiful in person, cultivated in mind, gentle in heart, sober and sure in judgment, she was to me an incarnation of the qualities which the mothers of the all-absorbing Anglo-Teutonic race have almost unconsciously developed and transmitted to the best and noblest of its sons. She was companion and friend, joy, solace and delight to every member of the family, and when in 1878, after a long life devoted to their happiness, at the ripe age of seventy-four, she died surrounded by her children, calm, fearless and triumphant, something was taken from their lives which changed the tenor of their thoughts forever."

All the environment of his young life was among the sect of Quakers, and he was surrounded by the influence of the Quaker life. The distinguished traits of character which he inherited from his Quaker forebears revealed itself to some extent in the things which he laid his mind and his hand to, whether it be as a plainsman crossing the desert, a prospector for gold, a common seaman on the Pacific, an adventurer, a huntsman, a Hudson Bay trapper, a distinguished lawyer at the San Francisco Bar and again

in Philadelphia, a distinguished soldier and Brigadier General during the Civil War or a great organizer and the head of a great corporation. And in the later years of his life, when in contemplation he contrasted his early Quaker teaching and his early Quaker life, so in contradistinction to those things revealed in his manhood nature, he journeyed across the ocean to Austria to find out something about his early paternal forebears. He found that the nearest ancestor of all the American Wistars was Johannes Wistar, who was born in the same house, which for ages previously and down to this day, is known as the Forster Haus at Wald Hilsbach, near Heidelberg, in the Electorate—now the Grand Duchy—of Baden, on the border of the Black Forest. The Wistars had come from the Austrian Province of Silesia in the train of an Austrian prince who had come to reign at Baden.

The adventurous and warlike spirit which Isaac Jones Wistar revealed in his later life, no doubt, was the call back of the blood of the Austrian of the Black Forest which partly stifled the training of the Quaker impulse, and buried it under the influence of the throwback to the adventurous spirit of the forster to the King.

While in Savannah and St. Augustine in 1848, there came to him and some young friends the celebrated report of Colonel Mason to the War Department, confirming the story of the discovery of gold in great quantities in the then unknown and almost mythical land of California. Here was offered to his wild spirit a combination of fortune hunting and adventure unequalled since the days of the Buccaneers, and well nigh irresistible, which came not alone to him, but to all the adventurous and ambitious youth of the country, who swarmed in tens of thousands along every route, known and unknown, possible and impossible, to the promised land. Across and through the wild fastnesses of the continent, around Cape Horn, through the unknown

interior of Mexico, along every route and by every conceivable method, pushed forth swarms of adventurers, who, leaving those to perish by the way, failed not to press onward despite all obstacles to the long sought spot. The splendid Anglo Saxon Empire which they have there reared, is now well known to all mankind, and constitutes a most fascinating page of American history. The movement struck young Wistar in a susceptible spot, and on April 5th, 1849, at the age of 22, he started on an expedition which led him during many years through much wild and precarious adventure, and directly shaped all his future life. In all the records of all the migrations of all the civilizations that the race has ever known, possibly there never was gathered together more of the flotsam and jetsam of human life than that migratory cohort of motley adventurers that crowded the trail with their faces toward the setting sun, chasing the golden fleece, as men have ever done, than that column which continuously marched, then kept marching all that summer, across the plains and climbed the mountain peaks of the Rockies for the gold that lay beyond. In this horde of adventurous men rode *our adventurer*. He kept a diary, commencing May 3rd, 1849, and almost every day recorded the adventures which each day brought forth. This diary, reproduced in his autobiography, although considerably abbreviated but otherwise in the language then used, written at the age of 22 in the travail of a great adventure, is an index, not only of the power and the diction and the intellectuality of the man, which in after years became a shield and a buckler in many a controversy. This diary is a mighty rendition of days that swarmed with moments and hours that seemed almost virile enough in themselves to preclude the possibility of time being found in those busy days of travel to record what happened. In addition to all the hardships and the thirst and the hunger, the buffalo hunts and the continuous fighting with the Pawnees and other tribes of Indians who infested the prairie in those days, this diary, in itself, is a record of marvelous adventure.

The trail of that march across the prairie was, no doubt, a counterpart of hundreds of other migrations of the adventurous men whose heads and hearts were set upon reaching the new Eldorado. The sudden attack by Indians, the bivouac at night while someone always stood on guard to ward off, not only the Indians but the wolves who, in considerable numbers came barking and howling around about the wagon trains; the thirst, the hunger and the cold, together with the care which had to be exercised in watching that the horses and the mules did not get away; and the deaths of those who, in like condition of spirits, unable to keep up with the privations and labor, and who fell by the wayside, brought many a sad ending of the days.

I would like to tell here a story of a chase by Indians on Sunday, the 27th of May, 1849, when young Wistar had an alarming adventure which came within a hairsbreadth of ending his travels for good. I can only sketch it briefly, but it is a fascinating story in itself. Desiring to distinguish himself by finding the first buffalo, he wandered a distance of several miles from the camp, when he perceived a column of dust ahead which seemed much like signs of the desired buffalo. He watched it closely through a depression of the surface so he could best make a hidden approach. Soon the bright spots of the war painted Indians flashed from out the dust. They saw him, formed in three columns, one center and one on either side for the purpose of outflanking him. He was compelled to make a ride for his life between the main column and one of the flanking columns, and with savage yells that burst from all the Indians they drove this greenhorn pioneer in a chase back across the prairie with savage and exultant war hoops that made his blood run cold. He was badly rattled. Cold chills, perspiration and quick breath came all at once, but he knew he was not a coward. Oh, what a ride that was, for miles and miles, closely and hotly pursued, and when the last ridge was reached his horse sprang forward and plunged to

his shoulders in a treacherous morass, concealed by the long grass. A triumphant yell burst from behind and the Indians came tearing down the hill. Dismounting, he led and pulled his horse out of the mud, knowing that the Indians would gain the same morass. They pot shotted him, but he got on firm ground and rode up the hill, while the Indians were pulling their ponies out of the mud. It was necessary to give the spur to his exhausted horse. One more hill between him and camp. In another bound he was over and right ahead the white circle of wagons, not bigger than prairie chickens, held all there was of hope and safety and life. The mid-day siesta of the boys with the wagon train was broken up in such an exciting manner that everything about the camp was in confusion, but the gratifying speed with which the condition of affairs was changed showed the stimulus of a charge by hostile Indians. And then followed, of course, a fight. This is, of course, but a mere outline of the crowded hours that came to our young friend on that busy day. There were many other similar battles and pursuits by bands of Indians when on his individual excursions, and many an Indian arrow sniped him in the back. (Five arrow wounds marked his back.)

This diary of this journey must be skipped over very hastily, although it is filled with the record of adventures as exciting as any of the hours that come to adventurous men.

On the 116th day out, in rags, almost starved, without provisions, and almost without tools, the great migration is done. They come to the land of gold. They don't know what to do with themselves—whether to be glad or sorry. There were to be no more Indian alarms, no more stampedes, no more pulling and hauling and tugging at wagons. Although worn and weary, they were in an exilirant and joyous mood. The gold was there, sure enough, for they saw it, and they could raise the color themselves everywhere, even on the main branch of the Greenhorn creek where

they halted, while the men on the Bear river, which is a tributary of the Yuba, at the mouth of the creek, they took out from one to three ounces per day and some more. Then came those fascinating days in seeking the coy and tantalizing metal. Round and round flew the pan with its momentous secret, and they held their breath as the shining yellow residium of gold and black sand revealed itself to their doubting eyes. Over-greedy they were sometimes, and many a time they reflected that they might have earned more back home husking corn.

And then came those days in the rough gold mining camps of California, full of the rough and tumble—made up of all manner and kinds of men—college graduates, broken down sports, criminals, beech combers and vagabonds, who soon swarmed from all the shores of the Pacific, and almost from all the ports of the world.

From prospecting and mining, young Wistar found partners and engaged in herding emigrant cattle on Lower Bear river in the Sacramento Valley. He hunted wild cattle, and some of the most exciting times of his life he had in those days. Even more exciting than hunting grizzlies or buffalo was corralling and fighting wild bulls.

From gathering in wild cattle, he engaged in the business of setting up a water wheel and starting a sawmill, for sawed lumber in those days arose to the price of a dollar per foot. He was soon visited, however, by an American Ranchero, accompanied by a number of Spanish and half-breed vaqueros who claimed ownership, by a Mexican twenty league grant, to all the ranch land at the debouch of the river into the plain twenty miles below, and on which Wistar was a trespasser. But at that time Wistar and his friends knew little of the facts and nothing of the law or the treaty, and laughed at the "cheek" of their visitors, ordered them away and invited them to come and put them off whenever they were ready to begin. It was not more than twenty days afterward, when some fifteen vaqueros,

led by one or two Americans, descended from the hills and made an attack, when young Wistar and his friends sallied forth, opened fire from rocks, trees and stumps, and whipped them with ease in a few minutes. They let them recover their wounded and retire, giving them warning that if Wistar and his party had lost a single man, they would have caught and hung the whole gang. However, the sawmill contest ended in their being convinced that they could not fight the United States and they gave in and surrendered.

Going to Sacramento he purchased a half interest in a whale boat, and in company with an Irish sailor, lost no time in loading with provisions and started for Marysville, at the head of navigation on the Sacramento river. And so it seems that at this time, after traveling across the plains in search for gold, our narrator got his first taste of life on the water. His first venture did not last long, for he purchased pack mules and made a number of successful trips, in company with an Indiana man, through a long and memorable winter, with the snow laying fully thirty feet deep on the divide, they become freighters between Fosters and Goodyears. On one of their trips they found at Goodyears and points above several scores of starving men who had plenty of gold, and who took their entire lading at \$4.00 per pound before it was off the mules backs. On a trip in the mountains in that year he was suddenly attacked with mountain fever. He rode down, almost without stopping, to Neys, where he arrived nearer dead than alive in a delirious condition. He lay there helpless for some time in a small canvass lodging house, deserted and partially robbed. With a strong constitution, and sufficiently improved to enable him to take passage in a small stern-wheel steamboat, which had just found its way to Neys, he was carried aboard, and taken to the Bay, as San Francisco was then known in the interior. A piratical doctor aboard the boat charged him an ounce of gold a visit, which soon swallowed up his modest pile. The call to the sea came to

him. He engaged at \$50.00 per month to Captain Franklin of the English bark "Change" for a voyage in ballast, by way of Callao to Iquique in the Chinchas, there to load guano for Liverpool. The "Change" was a good, staunch, slow-sailing bluff-bowed old collier of 400 tons, then deemed a good-sized vessel. Wistar was the only Yankee and "Johnnie Raw" on board. He was not long, with his spirit, in getting into collision and perpetual rows, and shindies between himself and the young Mate furnished the principal topic of daily interest during a long and monotonous voyage. All the degrading work aboard ship was put on young Wistar. He got hazed all right, and one day, when he was sent to the foremast chuck to slush down spars, he watched the ship's roll, and letting go at the right moment, he dropped the bucket, which weighed fifty pounds, on the head of the Mate. Although Wistar had become quite enough of a sailor by this time, the Mate soon got after him with an iron belaying pin, and whether it was his Quaker or his Austrian blood that came to the fore, Wistar drew his belt knife, and slashed him across the body, putting all his strength in the blow. After the skipper had swabed him off and tied him up, he sent for young Wistar and gave him the pleasing information that he was about to put him in irons and hand him over to the Admiral at Callao to be taken to England for trial.

Many things happened to change the purposes of the Captain. It was somewhere near the coast of Ecuador, during a dead calm, the Captain of the ship *Sea Queen* of Dundee came aboard. He was just out from Panama, and told that the place was thronged with thousands of Americans willing to pay any price for passage to San Francisco. This was too much for the equanimity of the Skipper, and he put down for Panama, which was reached after seventy-three days from San Francisco. Panama, at that time, was very much in the condition it had maintained for centuries. All land is beautiful to the seaman who sees it from the

deck of his vessel, after a long voyage, where nothing had been visible but sea and sky, but pristine Panama had a beauty and loveliness of its own. The grey mediaval masonry of the fort and town, embowered in tropical foliage, and backed by the picturesque mountains of the Isthmus—the whole seen across the fine bay with its islands, vessels and native craft—was irresistably attractive to eyes which for so many days had wandered idly over the weary expanse of an almost untraversed ocean.

Again, was it the instinct of the Yankee Quaker or the Austrian, which compelled the Skipper, upon demand of Wistar to pay him additional wages for the remainder of the voyage from Panama to Iquique, and his board in Panama until a vessel should be ready for Iquique. Such cheek from a foremast Jack had never been heard of in the British marine, and it nearly took the Skipper's breath away, but Wistar told him he would put up his claim to the five hundred or more Americans who were then going along the streets of Panama. The Captain yielded and sailed away, but not before young Wistar had bluffed the Mate into coming ashore, and the Mate and the Jack Tar immediately began to strip. The sailors immediately made a ring outside of which stood gathered a crowd of market Negroes and stranded Americans. As he, Wistar, was pounding the Mate's head against the ground a platoon of black soldiers charged down on them with fixed bayonets, and broke up the fight.

Soon young Wistar, who could speak a little Spanish, and rapidly increased his knowledge, got together a gang of cargadores and did a prosperous transporting business within the walls of old Panama for merchants and others until everything was thrown into confusion by the celebrated American riots. The transportation business being destroyed, and since his debut in Panama was not such as to entangle him into any fine distinctions, he became a gambler in passage tickets in Panama to Atlantic and Pacific ports.

The price of tickets rose sometimes to \$1,000 and upwards, and he was soon \$5,000 ahead in gold sovereigns. While his comparative wealth lasted he was a very popular character with his seafaring acquaintances whom he treated liberally, and he might have had command of many desperate enterprises then projected. One of these was the purchase or seizure—the parties were not particular which—of a schooner, getting a lot of Negroes on board at Taboga (the neighboring island where all vessels then took aboard their water) and landing them to plant coffee at some such place at the Isle de Cocas. But all these schemes were fortunately cut short by the loss of his entire capital one unlucky night in a gambling room where Monte was the game. The next morning found him absolutely penniless, and when he and his beach-combing followers got sufficiently hungry, there was nothing left for them to do but to ship at \$40.00 per month on a Spanish schooner for the coast of Central America. The ship brought back a cargo of thirsty and starving mules into Panama. Getting ashamed of his very indifferent surroundings and with money in his pocket, he cut the whole concern and shipped as a foremast hand on the American steamship Columbus. The ship was built for 100 passengers, but she carried 1,100 passengers in a voyage of 3,500 miles to San Francisco. They had scarcely dropped the headlands of the deep gulf of Panama when the “coast fever” or “yellow jack” broke out, venomous and deadly from the beginning, and the scenes on deck soon beggared description. The vessel was soon a howling bedlam. A hundred or more died of the fever, and the story of that voyage, with the panic stricken passengers, with the consequent spread of the disease, is one of the harrowing tales of Wistar’s autobiography.

Back again in San Francisco it seemed that an astonishing transformation had already taken place in the city, and it was for him to consider whether he would repair to the mines or adopt the sea as a profession, so he concluded to

try his luck in the mines again, and, repairing to Stockton, he invested his savings in mules and started out with a small pack train for the Mokelumne mines. Shipping his mules aboard the Scotch steamship Eudora, bound with a large freight and passenger list to Trinidad Head, a landing point below the mouth of the Klamath river, intending to start for the then little known mines situated on the upper Klamath, Trinity, Salmon and Shasta rivers. Wind and weather failed—a great gale came up, and with the Captain drunk and incompetent and a mutiny aboard ship among both passengers and crew, he was called to the Captain's state room and there found David E. Terry, afterward Chief Justice of the State, his brother William, and Doctor Ashe, formerly of North Carolina. The active revolutionists were then mustered and the Mate was ordered to take command. In this episode Wistar displayed the commanding qualities which afterwards at Balls Bluff and Antietam were to single him out for gallantry and promotion.

This paper is already getting too long, and yet one-half has not been told of what this man did as a sailor and a freighter and a trader in this wonderful narrative of the early emigration to California.

Trading in an Indian country he led a most eventful life. Listen to the details of this episode :

“Camping one night in the timber, a few miles below Blackburn's, with a large pack train of twenty men (besides Mexicans, who don't count much in an argument with fire-arms) we made a daylight start next morning, and as we approached the prairie back of B.'s, began to hear firing at his place. Quickly getting the white men in front, we cautiously opened the prairie and charged down to the ferry, seeing no Indians, although the firing ceased. When we arrived and opened communication with B., who was shut up alone in the small house, a horried scene was disclosed on the bar. The canvas shanty had been surprised and all its occupants simultaneously massacred. Their dying groans

had aroused B., who opened fire and had successfully defended himself in the clapboard house. The eight bodies were scattered about the bar mutilated in every shocking manner that the ingenuity of the savage had been able to devise.

"Sometime during the night a body of Indians had surrounded the place quietly, cut their way into the canvas house and at a signal had killed, without noise, every man. B., awakened only by the groans of the victims, had knocked off some of the upper clapboards of his shanty and opened fire. Being an old mountain man he wasted no shots, but the Indians knowing the small house could contain but one man, were ashamed to run away and leave him. After rushing several times on the house, with disastrous results to themselves, they retired and tried to crush the roof by stones thrown down on it from the bluff. But as they had to carry the stones up from the beach, and the stones they were able to heave so far were not heavy enough for the purpose, they returned to the beach and after considerable discussion among themselves, commenced a series of single rushes on the door, one at a time, trying to chop it down. They might have kicked in the slight clapboards anywhere, but thinking, naturally enough, that the place to get in at was the door, they gave their whole attention to it, each volunteer shouting his death song, as like the Homeric heroes, they successively devoted themselves to death. But as the door was much the strongest part of the house, being made of split puncheons several inches thick, and B. did not give them much time for chopping, their devotion went for nothing and all their efforts failed. B. thought he had 'saved' at least six, though their bodies had been successfully carried off. We buried on the prairie the horribly mangled remains of the eight men as far as they could be found and gathered up and took B. along with us, but not before he had buried a box of powder under one end of the ferry scow then being built on the beach. In the box he

placed a flint lock cocked, and the trigger made fast to the scow. It was afterwards learned through friendlies, that when the Indians returned, after our departure, and tried to push off the scow, an explosion occurred, which perhaps gave them a new idea of the ubiquity of the white man's vengeance."

After this he became a hunter and trapper for the Hudson Bay Company in that great portion of the Northwest traversed by the Peace, Saskachewan, Athabasca, Liard, Columbia, Thompson and Frazer rivers; and it was at Trinidad that he met Francois Bisell. Let him tell you about this comrade.

"Francois Bisell was like many of his class, a half-breed of Canadian and Huron stock, the Indian blood predominating, since his father had been a half-breed before him. In my partial eyes, he retained most of the best traits of both races, possessing, with the tenacity and coolness of the whites, the Indian's taciturnity and silent endurance, with the courage and intelligence of both. He was exactly of my age, having been born on the same day, six feet high, handsome and well proportioned, fearless in character, though extremely amiable, and was by far the best hunter I have ever met. Our intimacy commenced with a circumstance which I am sure neither of us had cause to be ashamed of or regret, although it led to subsequent acts not perhaps so easily defensible. We had been up the coast some miles above Trinidad to an Indian village, where we occasionally got a sea otter skin or two, and were returning to camp by way of Trinidad, the only available trail lying through the town. On emerging from the 'One Mule Gulch', just above the town, we came upon several of the boiled-shirt gentry (gamblers) who had three Indians bound to trees and were discussing in what manner to put them to death. The Indians, who knew us, called on us to save them, and we recognized them as inhabitants of the village we had just come from. Some cattle had been killed near the town,

and the gamblers, who knew nothing of Indians and could neither find nor catch any wild ones, had seized these poor friendlies who were in frequent and amicable communication with packers and fur men, 'and living in permanent quarters nearby at the whites' mercy, would have as soon thought of suicide, as of hostile acts against such dangerous neighbors.

"The gamblers, however, were determined to have the fun of murdering some one, and the only effect of our remonstrance was to draw their cheap wrath upon ourselves. They cursed us for d——d 'fur men' and 'mountain men,' who were no better than Indians ourselves, and, in fact, were in league with them and should by right be hung also. Like the rest of their kind, they flourished bright, shiney six-shooters and bowie knives, but had no rifles, thinking, no doubt, their numbers gave them a sure thing on us; but not of that opinion was Francois, who possessed that dangerous sort of temperament that becomes cooler in exact proportion as danger comes nearer, and at the very crisis, he was sure to be almost painfully deliberate. Without taking his eyes an instant from the enemy, he remarked to me in a drawling tone in Chinook: 'Will you fight?' 'Yes.' 'Then I will be captain; watch me.' It must be explained that the first step of mountain men on getting into a tight place with Indians or others, is to select a captain, whose actions and words are to be closely regarded. Thus no talking is required, and the captain, knowing the others will do what he does, neither too soon or too late, need not remove his eyes an instant from the enemy. Suddenly drawing his rifle Francois ordered: 'Throw down your pistols. Hands up!'"

There is more of this story, and it does not end here, but the friendship which he speaks of lasted for a long, long time, and during those days which they spent together, summer and winter, and especially in the winter when the cold was most intense, there came into their lives one

episode, an exemplification of faith in God and the supernatural by Francois, which saved two jaded starving desperate human lives. It was somewhere up on the Rocky Mountains on the Smoky Fork of the Peace river. The ground was covered with a heavy snow. The streams were hard bound with ice, and frequent wind storms which at the low prevailing temperatures none can face and live, and no great time had elapsed before their provisions were exhausted, in a difficult country where game was not to be had. Let the story go on here in the words of Wistar :

“Making a temporary shelter in a bad place and under unfavorable circumstances, we therefore proceeded to devote our whole attention to hunting, till after some days we became awake to the fact that the district was absolutely without game. Every day the weather permitted, we covered long distances in opposite directions, without finding so much as a recent sign or track. Then we set traps for fish in such rapids as remained open, and for birds and small animals, but without success. Travel over the rocky side hills concealed by snow, was exhausting and dangerous, both of us getting some bad falls. Moreover, as one dare not stir from camp in the uncertain weather without carrying a considerable weight and bulk of articles like furs, snow shoes and so forth, which might at any moment become essential to life, we soon became weak and exhausted. After trying in vain all the resources practised by trappers in such straits, all of which were well known to Francois, we ate the grease in our rifle stocks, all the fringes and unnecessary parts of our buck leather clothes, gun and ammunition bags, and every scrap of eatable material, boiling it down in an Assinaboine basket with hot stones, and were finally reduced to buds and twigs. After many days of this extreme privation, no longer possessing strength to travel or hunt, I became discouraged, and as we lay down one night, I determined to abandon the struggle, and remain there, enduring with such fortitude as I might the final

pangs which could not be long deferred. At this last stage in the struggle, an event occurred of the most extraordinary character, which cannot seem more strange and incredible to anyone than it has always appeared to me on the innumerable occasions when I have since reflected on it. Notwithstanding our exhaustion and desperate conclusion of the night before, F. rose at daylight, made up the fire as well as his strength permitted, blazed a tree nearby on which he marked with charcoal a large cross, and carefully reloading and standing his gun against that emblem, proceeded to repeat in such feeble whispers as he was yet capable of, all the scraps of French and Latin prayers he could remember, to all which I was in no condition to give much attention. When he got through he remarked with much cheerfulness that he was now sure of killing something, and urged me to make one more effort with him, which I rather angrily refused, and bade him lie down and take what had to come, like a man. With cheerful assurance he replied that he was not afraid to die, but our time had not come. He knew he would find and kill, and we would escape all right. Then desisting from his useless effort to get me up, F., leaving his heavy snow shoes behind, directed himself with weak and uneven steps down the little stream in the deep gorge of which our camp was made, and never expecting to see him again, my mind relapsed into an idle, vacuous condition, in which external circumstances were forgotten or disregarded. But scarcely a few minutes had elapsed, and as it afterwards appeared, he had hardly traversed a couple of hundred yards, when I heard his gun, which I knew never cracked in vain. I had thought myself unable to rise, but at that joyful sound promptly discovered my mistake. I found F. in the spot from which he had fired, leaning against a tree in such deep excitement that he could speak with difficulty. On that rugged side hill, apparently destitute of all life, in that most improbable of all places, within sound and smell of

our camp, he had seen, not a squirrel or a rabbit, but a deer. Attempting to climb for a better shot, the deer jumped, and with terrible misgivings he had fired at it running. He had heard it running after his shot, but was sure he had made a killing hit. Scrambling with difficulty up the hill we found a large clot of blood and a morsal of 'lights', which we divided and ate on the spot. After taking up the trail we soon found the animal.

"I do not undertake to explain that astonishing circumstance. I suppose it must be regarded as an accidental coincidence, but it is of the kind that staggers one in the acceptance of that easy and common explanation. Its extraordinary character is most of all apparent to such as may from similar experience be able to realize the desperate nature of the situation. Two good hunters had ransacked the vicinity for miles without finding a living thing, and had tried in vain all the numerous resources known to the trapper, when a caribou, the wildest and most timid of all deer, walks right into camp, as one may say, at the last moment when further delay was death. How came he there? Where did he come from, and whither was he going? Where were his companions, and what attraction of company or food brought him into that wild and snowpacked gorge at that critical moment? No one can guess any plausible answers to such questions, though Francois believed, and till his latest breath will continue to believe, that after all human efforts had been put forth in vain, the hoily Saint Francis, his patron saint, moved by his suffering and prayer, had himself bared an arm for our relief.

"Francois, of course, had many tales to tell to justify his faith. A lifetime of adventure and association with superstitious Indians and pious and credulous half-breeds, had not failed to include many perilous dangers and escapes, and to establish an unswerving reliance on the sympathetic and simple Priests, who in the humble frontier villages of

Canada are the depositories of all the mysteries of nature and religion."

I wish I might tell you of those stirring times which followed the days when he abandoned the life of a trapper until the time when he got back to civilization again, of those days of departure from the occupation of a trapper for the Hudson Bay Company; down through the Cascade Mountains to the return to the American frontier, where their skins could be converted into money rather than take compensation in trade from the Hudson Bay Company, a risky thing to do, by the way, because it meant a breach of the laws of the Company which required their trappers to trade with it alone. This meant the avoidance of the company port and the company's traveling parties. To observe the law strictly would condemn him to the trapper's life forever. They had gotten clear of the Upper Frazer and Thompson rivers and crossed the divide; and in that long journey of hundreds of miles he and Francois encountered not only Indians, but raiders whose attacks and maraudings were such that it is a wonder that the two of them ever got out of it alive. Just before reaching the American settlements on the Willamette they were attacked by Indians, one of the most thrilling Indian stories of that wonderful biography, and of which Francois and himself were survivors, but a most disastrous fight. They divided the horses and Wistar's share of means was increased by which he might indulge again in the insidious pastime of Monte. He was never to see Francois again, and this is his final tribute to him.

"Alas, poor Francois! The best, bravest and surest friend I ever possessed. Many a sad and sleepless night have I regretted him, and I do surely hope and believe that far away in the northern wilderness he also may have passed some hours in thinking of the old comrade who trusted him so implicitly and loved him so fondly but can never see him more. Notwithstanding his affection for me, he entertained

a theoretical hatred and distrust of 'Bostons', or Americans, and after surviving the horse episode, could not bring his mind to following me across the hated border, preferring to return to a hard life and constant adventure in the far northern solitudes he had roamed so often."

And he then adds this for his Indians:

"No, I could not remain always with my Indians, and there was no place where white men might be encountered, to covet their property and corrupt their families, that was safe to leave them at. Hostile tribes may be whipped, driven away, or conciliated, but neither resistance, nor docility, can hold or tame the rascally scum that ever floats first on the advancing wave of the white man's advance. The frontier abounds in cowardly, murderous wretches, who delight in robbing and maltreating the weak, when it is easy and safe, and notwithstanding the invaluable aid I should have had from my native herdsmen in California, I dared not take them any farther. I therefore left them encamped somewhere not far above the crossing of the upper Klamath, under the protection of 'Captain Jack', a famous Rogue river chief, while I rode on to obtain blankets, ammunition, and so forth, to pay them off. This was at length effected to mutual satisfaction, and after a most sentimental leave-taking, at which the men looked sober and women wept, I rode sadly away and saw their faithful and loving faces no more."

If I have not recounted here as many of the tales of adventure and fighting that young Wistar's life abounded in, it is partly because it is difficult to do them justice without entering into the details of the surroundings and the depiction of the characters who were his associates, and who shared with him in enterprises that were not always of the kind that we tell our children of as deeds to be commended, but nevertheless there were episodes when suddenly organized parties of trappers gathered together with their winter's spoils in the far off districts of the Peace and

Liard rivers and along the Frazer, in a disturbed Indian country, the expected or unexpected outbreak would come. The assumed hostility of the Indians was due to the influx and depredation of the American settlers. The penalty for the offenses of these settlers fell upon the mountain men first. It was useless to try to get anywhere without horses, and the only way to procure them was to take them from the Indians on the plains. And in those fights, oh! how desperate they were, these trappers were glad to retire baffled in purpose but satisfied to keep whole their skins. In ordinary war the scout or picket may, at the last moment, surrender without loss of honor and save his life, but in Indian warfare it must be victory, escape, or death, without quarter given or received.

From one of the worst horse raids that Wistar was ever in, and after dividing the horses and somewhat increasing his pile, he departed company from that band of mountain men and trappers, and traveled south to the Willamette. He never again laid eyes upon or heard a word of any of them, not even the faithful and devoted Francois. He then established a cattle camp in Scott Valley, on a large tributary of the Klamath, from which rose the lofty barrier of the Trinity mountains in Northern California. After a winter in this business with nothing more exciting than personal encounters with grizzlies, an encounter with "Oregon Jim", a real bad man of the mountains, who was tried by a miners' court, and for want of actual proof was adjudged not guilty brought from General Wistar, when he recalled the rough justice of those California days where no real constituted authority existed, the following:

"The popular jurisdiction out of which this 'difficulty' grew, is none the less interesting when we reflect that it is almost peculiar to our own race and has at one time or another prevailed in every State of our Union, except those settled directly from European countries and thence supplied by charter, with complete ready-made judicial machinery. In connection with the various unwritten popular civic

codes affecting mineral lands and water supplies, the faculty of popular appreciation and enforcement of order is anterior to the advent of statesmen, or legislators, or of even public education. It is embedded deep in Anglo-Teutonic nature, and is traceable far back to those primitive days when our barbarous German ancestors met in the forests in general assembly of all the warriors, and by the clash of sword on shield signified their unconstrained and effective judgment on all propositions, including those of peace and war.

"Can it be possible that in the march of luxury and civilization, we have lost, or are in danger of losing, that unique heritage among the corrupt and bungling failures of modern legislative methods, sustained upon the universal suffrage of ignorance and numbers? Must we believe that that early love of the masses for justice and political vigor has been, or is in danger of being, corrupted or impaired by the poverty and struggles which seem more and more incident to the civilized condition?"

After closing out his affairs in Scott Valley he took stage at Reading Springs for Sacramento, about 300 miles distant, which was made in about twenty-four hours, where he took the steamer Senator for San Francisco.

About this time, early in 1852, this Argonaut, after a brief stay in the City of San Francisco, bought a farm at Contra Costa, where Oakland now stands. He attempted farming on 160 acres of land which he had purchased, but soon getting tired of that, the call of the sea got him again, and in the bark "New World", chartered by a joint stock party, of which he was one, started on a voyage to Puget Sound. Where the City of Seattle now stands he came in contact with the old Indian Chief Seattle, for whom the city was named. After several voyages up and down the coast, some of them very stormy and very dangerous, he returned to San Francisco in 1853 and became interested in a slave question growing out of the presence in San Francisco of a few Negroes brought by a neighbor of his from Missouri. Some

sort of a proceeding had commenced in the court of a Justice of the Peace in Oakland, and as the Justice was afraid of an imminent riot over a question, sent for Wistar, begging him to organize a party to maintain order while the court transacted its business. This incident led to his embarking into the study of the law. He became a lawyer's clerk at \$40.00 per month, in the office of a leading law firm, where he was entrusted with the framing of mortgages. He was soon permitted to appear in the courts of California as a full-fledged lawyer. One attorney who behaved very generously toward him was no less a person than Colonel Edward D. Baker of Illinois, who arrived in San Francisco in 1850, formerly Colonel of the 4th Illinois Regiment in the Mexican War, and afterward the first Senator of the United States from the newly admitted State of Oregon, and subsequently Brigadier General of Volunteers in the Army of the United States and later distinguished on both sides of the Continent, with whom, afterward, Wistar was admitted in a professional partnership, and with whom he continued to maintain the closest business relations and friendship until his death, which occurred at Wistar's side on the battle field of Balls Bluff, Virginia, October 21, 1861. Colonel E. D. Baker was one of the most brilliant of California's men in those days. He did much in saving California for the Union in the days just preceding the war, and afterwards; and it is a notable fact that those two men who stood side by side in the days of the Vigilantes in San Francisco, and shared together in the great effort to restore law and order in California, should years afterward, with Baker in the Senate from Oregon and Wistar back home in Philadelphia practicing law on his return from California, be joined together in the raising of a regiment to be known as the First California, and afterward the Seventy-first Pennsylvania, and both fall, almost side by side, the one mortally wounded and the other seriously so, at the Battle of Balls Bluff.

Nothing in Wistar's life was more valiant than the part both he and Baker took in those days when San Francisco trembled, when the city was stricken with the outrages which grew out of the prevalence of mob law. There were two eras when the city was stricken in this way, one in 1851 and one in 1857. At this latter time, General William Tecumseh Sherman was a banker in California, after resigning from the army, and was Major General of the State Militia. The Governor of California, William Neeley Johnson, sent for Wistar to come to Sacramento during the excitement growing out of the murder of James King, a newspaper editor, by a man named Casey, a former Bowery tough, who was then editing a newspaper in San Francisco. The Governor, realizing that excitement and passion were extending throughout the State, thought the time had come to exert the force at his disposal to suppress it at the fountain head in San Francisco. With the entire militia force of the city having practically gone over to the enemy with their arms, he desired to call out the weak semblance of such organizations from the country, and had nothing reliable in view except in Sacramento and Stockton. The Governor commissioned Wistar an Aide-de-Camp and sent him to San Francisco with orders to obtain a small sloop, man her with a few picked men and conduct her to General Wool's headquarters at Benicia and obtain the arms, which General Wool had promised to deliver on requisition furnished to Wistar, and carry them to the State Penitentiary at San Quentin. Wistar strongly criticised General Sherman for not being at Benicia when the Governor had directed him to take up the demands made by the Governor through Wistar. One of the men whom Wistar had with him at that time was John C. Heenan, a fighting blacksmith, whose name as a pugilist in a struggle with Thomas Sayres, as the Benicia boy, afterward filled the pugilistic world. General Wool finally listened to the demands of Wistar, and the guns and ammunition were secured, and as he was the

last to jump aboard the sloop, the jib was already up, when he informed the mob gathered on the wharf, that if a single shot was fired, he would let go the anchor and sweep the wharf with shot as long as a man remained on it. However, this attempt on the part of the State authorities to suppress the San Francisco mob by force of arms, on account of the weakness displayed on the part of prominent men in the State and city service, was not as successful as it should have been. Colonel Baker and Wistar acted as counsel for Casey, the murderer, in the determination, as they put it, to attempt to restore the orderly working of the courts and the processes of the law.

In September, 1857, he took his last look at San Francisco and sailed away on the steamship "California", by way of Panama, back to the East.

Those days in San Francisco, during his lawyer period there, were filled with demands made upon his vigorous and brave spirit to sustain, in many a hot fight and battle, what he considered the righteous determination and stand to take on the public questions which in those days stirred most deeply the civic life of that City of the Argonauts.

When he arrived home, in Philadelphia, gold having mounted to a premium of about 20 per cent., he was able to realize very heavily upon his holdings. The gold bonds of California, which he had purchased at between 70 and 80 per cent., he re-sold in New York at par, and thus transferred to his pockets in the East a considerable sum of money.

In 1858, the excitement of the discovery of gold at Pike's Peak, Colorado, started him off for the new Eldorado. He went into the cattle business in Iowa, shipping to Chicago. He landed his stock safely at the old stock yards in Chicago, and in three days he had closed out his stock and trebled his investment. After his successful cattle business in Iowa and Chicago, he returned to Philadelphia. In March, 1861,

his old law partner and friend of the San Francisco days, Colonel E. D. Baker, took his seat as United States Senator from Oregon. This wonderful man at once took a high place in Congress. He was an intimate friend of Lincoln, having formerly resided at Springfield, Illinois, Abraham Lincoln's home.

Those were the days of that strange ebullition of political affairs in the United States, in which everybody of any consequence, North or South, became immersed, but few were able to realize the imminence of the stupendous reality of Civil War, and when Fort Sumpter was fired upon, Wistar offered his services and was on duty in mustering and preparing for the field the Philadelphia Division under Major General Cadwallader.

It was not long before Senator Baker notified Wistar that he had received an order from the President, dated May 8, 1861, authorizing him to raise and equip an infantry regiment of sixteen companies to be called the California Regiment, to be mustered into the United States service at New York, and to be commanded by himself as Colonel.

Wistar joined Senator Baker in raising the regiment, partly in New York and partly in Philadelphia. He raised the most of it in Philadelphia, and took the men over to New York and had them mustered in.

Early the next morning, after he had conferred with Baker, he distributed his cases among willing friends, packed up his law books and stored them, covered his office walls with placards, hired a fife and drum corps and made life miserable for his neighbors, while the California Regiment was under process of organization. The history of the organization of the regiment up to the time of the disastrous battle of Balls Bluff, October 21, 1861, was full of that energetic life and industry which Wistar always exemplified.

Colonel Baker fell at Balls Bluff, as stated, and Wistar was seriously wounded. Just after Baker, himself, had

picked Wistar up from the ground where he had fallen, Baker was hit by the enemy. The regiment continued on and won great fame and was distinguished as the peer of any in the glorious Second Army Corps, and covered the retreat of Pope's routed columns from Manassas, charged Jackson's veterans at Antietam. It was at Antietam, when the enemy advanced over and were driven back over Wistar's prostrate body on the field, and it was to receive on its steady bayonets the shock of Pickett at Gettysburg, and to have emblazoned on its standard the historic names of The Peninsula, Fredericksburg, Chancellorsville, Spottsylvania and other innumerable fights.

Not long after Baker's death, President Lincoln sent for General Wistar, inviting him to a private audience on two occasions, and gave a considerable portion of his time and capacity to a discussion of the best means of remedying the difficulty concerning inefficient and worthless officers who had been foisted upon the army through a vicious volunteer system. As a commander of a division, he received the highest commendation from Major General Benjamin F. Butler for his brilliant and ably executed movement upon Richmond, which failed only from one of those unfortuitous circumstances for which no foresight can provide and no execution can overcome.

General Wistar continued to distinguish himself at West Point, Va., and Bermuda Hundred. He had entered the last battle against the remonstrance of his medical officers, and was in a very bad state of health, and owing to the exposure incident to the movement against Petersburg and Drury's Bluff, he paid the penalty justly to be expected, and was compelled by fever to be sent to the hospital at Fortress Monroe; and during the close of the year 1864, by reason of his physical condition, was compelled to resign his commission.

In 1865 it was that he organized the canals of Eastern

Pennsylvania and became their President, and in 1869 assisted in organizing the Susquehanna Coal Company and became its active head.

In the year 1877 occurred the labor riots. Governor Hart-
ranft went to Philadelphia, called on General Wistar to inquire if he could raise an effective force in the cause of order. He expressed a confident opinion that it would be quite practicable, in a day or two, to raise all the force required, officered with experienced officers, and suppress the riots within twenty-four hours after arrival in Pittsburgh. He proposed to undertake the responsibility himself, if the Governor would give him full authority as he required it, but when the Governor asked him what he meant he said:

"Well, Governor, I have worked hard all my life, and have accumulated a little property, not much, but of some importance to myself. If I go to Pittsburgh, I don't propose to put down the riot by coaxing, but by force; and as matters now stand, the relations of every loafer who gets himself killed would be bringing suits against me for the rest of my natural life. Do your own share. Declare martial law, so as to protect your military agents, and I will take a sufficient force to Pittsburgh, prohibit all street assemblages, require the surrender of all firearms, fire on every unlawfully assembled squad, and after a reasonable time, hang on the spot, every man taken with prohibited arms in his possession. Give me lawful authority and a safe legal status, and I will guarantee you such order in Pittsburgh that, in twenty-four hours after my arrival, no prayer meeting could be more orderly and law-abiding. But you must accept the fact that at the stage where things have arrived, order will cost blood, and blood must be shed."

Surely this was a recrudescence of the fighting spirit which he had shown during the days on the plain in forty-nine, in California, and in San Francisco in the days of the

Vigilantes, and then again in that mighty Civil War for the Union. Of course, the Governor could not confer such broad powers upon Wistar.

General Wistar's life at the head of the corporations was a very busy and a very successful one. He was a great lover of natural history or physical science; he was a Director in the Philadelphia Zoological Society; a Director of the Board of Trustees of the Building Fund of the Academy of Natural Science of Philadelphia, and later was elected President. He became interested in the subject of the organization of an appliance for municipal engineering and administration, and the organization, discipline, instruction, mobilization and supply of great modern armies, especially those of England, Germany and France. His name will always be associated with the progress of American science, not only by reason of his personal gift to anatomy in the founding of the Wistar Institute of Anatomy and Biology, but also on account of his personal interest in the various associations with which, in his later years, he was connected.

General Wistar died September 3, 1905, at Claymont, Del., where he had lived for years.

Those who enjoyed the privilege of knowing General Wistar intimately had the greatest admiration for his force, his independence, his deep human sympathies, and the qualities that are combined in a true friend. Personally, I cherish the realization of a fine intimacy with General Wistar, and although this narrative, which I am reading here to-night may not possess to many the interest which his adventurous life and attributes has for me, I feel a confidence in here repeating what I opened the paper with, by saying that he was one of the bravest of brave men; certainly as brave a man as I have ever had the pleasure of knowing.

A VISIT TO WILKES-BARRE
BY A YOUNG PHILADELPHIAN
IN THE YEAR 1840.

AS RELATED IN THE JOURNAL OF MR. B. B. REATH
OF PHILADELPHIA.

READ WITH EXPLANATORY NOTES BY GEORGE R. BEDFORD, ESQ., BEFORE THE WYOMING
HISTORICAL AND GEOLOGICAL SOCIETY, OCTOBER 8, 1915.

Friday, 7th August, 1840. —

At about one o'clock this morning we left Shickshinny for Wilkes-Barre, and of all the rough rides I ever had I think this was about the roughest. The road runs up through two mountains, and is covered with loose stones, which throw the stage up and down in a manner that is really scandalous—in fact, I was tumbled from one side to the other continually from the time I started. To add to the inconveniences of the journey, it was very damp and cold, so cold that when we reached Nanticoke I got off the coach and went into the house, where there was a fire burning, which felt as comfortable as ever it did in the midst of winter. When the sun rose I got off, and mounted with the driver, with whom I rode for the rest of the way. In coming round the hill above Wilkes-Barre I noticed that the road was very dangerous, being too narrow for two vehicles to pass, and running along the edge of a bank, quite sufficiently high to have knocked the stage to pieces in short order, had it been unlucky enough to pass over.

NOTE.—The route traveled by the diarist, from Shickshinny to Wilkes-Barre, was obviously on the West side of the river, for the reason that there were no bridges below Wilkes-Barre; the Nanticoke referred to was evidently West Nanticoke.

The narrow road mentioned was a stretch of highway extending below what is now the Woodward Colliery, for a half mile or more toward Plymouth along the river, and was, in 1840, and for many years later, known as the "Narrows". As suggested by the diarist, the road was too narrow for two vehicles to pass, except at certain places where the bank had been dug out for the purpose.

It will be noticed that traveling in those days by stage began in the early morning. At Shickshinny the stages no

doubt connected with stages to and from Harrisburg. At that date the stages going over the Wilkes-Barre mountain to Easton and thence to New York and Philadelphia, left Wilkes-Barre at about three o'clock in the morning, supposed to arrive (dependent on road and weather conditions) at Easton the first night, and at their destination the second night.

At about six o'clock, arrived at Wilkes-Barre, and put up at the Phoenix Hotel, situated on the bank of the Susquehanna. After breakfast I walked out to look at the town. Wilkes-Barre is a very beautifully built village, settled altogether by Yankees, who have built it in the real New England style—the houses being chiefly of frame, and handsomely ornamented with pillars, etc. There are several churches, some of them very neat, and one of them, the Methodist, has a handsome steeple on top, containing an excellent bell. There are some very fine houses in the place, owned by the *lawyers* and other *great men*. The lawyers will always be at the top of the notch, and when they get *this child* among them, I guess they will be a little higher yet.

NOTE.—This last remark about the future improved status of lawyers obviously has reference to the diarist's intention to join their honorable company, which four years later he accomplished by admission to the Philadelphia Bar in 1844.

The diarist very properly speaks of Wilkes-Barre as a village. In its customs, as well as its appearance, it recalled the New England village of the time. Every night at nine o'clock the bell of the old church on the Public Square rang out as a reminder to old as well as young that it was about time to prepare for the night, and after that hour very few persons, young or old, were abroad on the streets of the village.

The population did not exceed eighteen hundred. Franklin and Washington streets ended at South street, with farms beyond. Washington street was grass grown and most of the lots on Washington street and many of the lots on Franklin street were without buildings. Main street extended through the Public Square. On the South side of the Public Square was located the old Court House, taken

down about 1858; on the East side of the Square, apposite the present Fort Durkee Hotel, was located a stone building generally called (though erroneously) the "Fireproof", which contained the public offices of the county; on the West side of the Square was located the church hereafter mentioned, and on the North side, opposite the Bennett building and other buildings, was located the "Wilkes-Barre Academy". Of this latter institution it is said in a publication in 1830 that:

"The Wilkes-Barre Academy, incorporated in 1806, has deservedly acquired a high reputation. It contains students pursuing the higher branches of learning. The Latin and Greek languages are here taught, together with mathematics and all the various branches of an English education. This institution has produced a number of scholars, and has prepared numerous young men to enter the Northern colleges."

It may be further said of this institution that a number of its students later attained eminence in the professions and in public life.

The same narrative refers to the "Wyoming Seminary" for the education of young ladies, then recently established in Wilkes-Barre, and not to be confounded with the Wyoming Seminary established some fifteen years later at Kingston. Of this school for young ladies it is said that the same "promises as extensive usefulness as any institution of its kind in our country. Under the care of Mrs. Chapman (the widow of the author of the earliest 'History of Wyoming'), its principal, and Miss Trott, her assistant, both highly accomplished and well qualified instructors, this Seminary is exciting an interest and is acquiring a reputation not usual in the infancy of institutions of its kind."

The Miss Trott here mentioned a little later became the wife of Hon. George W. Woodward, and the mother of the late Hon. Stanley Woodward and of Mrs. Eben G. Scott.

The City Cemetery was located at the corner of East Market and Washington streets, where now are the City Hall and other buildings, and the county jail was located on the corner diagonally opposite where now is located the Derr building occupied by the White Hardware Company.

The canal followed the line of the Pennsylvania Railroad south from Northampton street and of the Lehigh Valley Railroad from Market street to a point above Union street, and thence to the river, and was crossed by bridges at considerable elevation located at River, Franklin, Main, Wash-

ington and Canal streets. And where now stands the Lehigh Valley station was a large canal boat basin, and another where now stands the County Court House on the upper River Common.

The Phoenix Hotel mentioned was located on River street less than two hundred feet below Market street. It was taken down in 1865 and was succeeded by the Wyoming Valley Hotel, which in turn was taken down a few years ago and replaced by the present office building of the Lehigh & Wilkes-Barre Coal Company.

The Phoenix Hotel at the time mentioned and for many years before and after was famed for its table. It was in the days when there were no game laws, and when game was abundant. As soon as the weather permitted, game was supplied in great quantities, and the larder of the Phoenix Hotel was always furnished during the cold season with venison, pheasant, quail and an occasional wild turkey. The hotel was fortunate in having a famous cook, and its patrons from the cities were regaled with game cooked to the "Queen's" taste. The landlord, Gilchrist, presided at table, did the carving for his guests, and looked after their comfort. The dinner table was always supplied with two bottles of brandy for such use as the guests might care to make of them.

It would seem that the Methodist Church here referred to was one built about the year 1800, and generally spoken of by the people of the town as "Old Ship Zion". It was noted for the symmetry of its very tall steeple, and was located on the Public Square facing what is now known as the "Welles Building", occupied by the Isaac Long Store. It was for many years used as a union church, being in turn occupied by Episcopalians, Presbyterians and Methodists, but before the date of this journal it had been taken over by the Methodists.

About eleven o'clock I went around to see Miss Mary Stille, and remained with her for about half an hour; while there, was introduced to Mrs. Osterhout and two young ladies, whose names I really do not recollect. Had nothing to do all afternoon but lounge about the tavern—an amusement not much to my liking, but as I felt not very well, owing to the long stage ride of the preceding day, I deferred going out on the hills for another time. After tea, walked

out on the green bank of the river, and indulged in various agreeable reminiscences of events that had happened in other days—in fact, it was quite a fine place for indulging in poetic flights. This evening the hotel is crowded with passengers, who have come on from Mauch Chunk.

NOTE.—The Mrs. Osterhout referred to was the wife of Mr. Isaac S. Osterhout, the founder of the Osterhout Library. He was at the time a leading and successful merchant, having his store on the Public Square and his house adjoining, all on the premises now occupied by the large department store of Jonas Long's Sons.

The mention of Mr. Osterhout's name recalls a matter related to me by the elder Mr. McClintock. Mr. Osterhout and other merchants were in the habit of visiting Philadelphia twice a year, for a stay of some two weeks for the purpose of selecting and purchasing goods for their stores, which included dry goods, groceries, and a large variety of merchandise, very much on the plan of the present day department store, but, of course, on a very much smaller scale. At such times it would happen that on the evening before leaving Wilkes-Barre Mr. Osterhout would be called on by his friends and neighbors to say "good bye" and oftentimes be given some commissions to execute; the trip being then considered about equivalent to the trip of to-day to Europe.

Saturday, 8th.

This morning I scraped acquaintance with a Mr. Jordan of Philadelphia, who is staying at our hotel, and is engaged in collecting his debts in this part of the country. We neither of us had anything to do during the morning, and therefore agreed to go out on an expedition to Prospect Rock, a position that commands a view of the whole valley. This place is situated on the mountain immediately back of the town, at a height, I presume, of about twelve hundred feet, and is, of course, very difficult of access, although when one once gets up to the place, he is amply repaid for all his pains, by the beauty of the prospect. For the last half mile it became very tiresome, and withal somewhat dangerous, as we were obliged to make our way through a path which was for the most part overgrown with underbrush, and

which, as we very well knew, was in some places thickly tenanted by rattlesnakes, copperheads, and such like reptiles, a visit from whom would have been anything but agreeable. However, we at last did reach the top, and undoubtedly, with the exception of the view from Mt. Holyoke, I never did see so beautiful a landscape. And then what a fine place this was for romance and poetry! Here, we were looking down upon the scene of adventures of the renowned Gertrude of Wyoming—here, we were overlooking the spot where our fathers fought and bled for their country and their liberties—that spot on which so many of them fell victims to the barbarous scalping knife and the tomahawk—this very mountain received the fugitives from the massacre—some of them, alas, escaped but to perish in the wild solitudes of the forests—in such a place, could any one help feeling his blood course more rapidly through his veins, if he had the least spark of poetry or romance in his composition? I at least should think not. But again; suppose that some illustrious chief, the last of a noble, and once powerful race, now driven from the homes and hunting grounds of his fathers, to wander amidst the forests and prairies of the west—suppose that he should place himself upon this rock, “as the last rays of the setting sun were gilding the village spires”, and, leaning upon his rifle, contemplated the scene of wealth and prosperity beneath him—founded upon the ruins of his own once happy homes. Where, in other days, the singing of the birds, the humming of insects, the music of the waterfall, and the twinkling of the mountain rills, saluted the wornout hunter, as he threw himself down at evening beneath the shade of some majestic tree, planted by the hand of the Great Spirit, was now heard the bustle of business—the noise of the axe and the hammer—the rude footsteps and the voice of the white man—but the Indian could no longer be seen. Where once stood the wigwam of the Delaware, now rose the stately mansion of the stranger—where once stood the lofty pines and wide spreading oaks, the choicest of nature’s gifts, were now seen

the fields, loaded with their rich, waving harvest treasures of which the simple native had never known or heard, and without which his years had rolled calmly on, in the joys of liberty and a forest life. What would have been the feelings of the chief, when he viewed these changes, so rapidly effected within the space of a few years, and reflected that he was now looking down for the last time on those scenes, in which his childhood's pleasant hours had been passed, but which must now be forever abandoned to wanderers from distant climes. And yet the picture of our imagination has not been much overdrawn. It is quite possible, not to say probable, that such a scene has taken place on this very spot.

NOTE.—It is to be remembered that at the time this picture was drawn by the diarist there were many persons living who survived the battle and massacre of Wyoming, to whom the scene suggested by the diarist would recall the experiences of the days then long ago when an Indian Chief was a familiar figure.

Now then, gentle reader, we hope that we have not tired you out with spouting poetry, but really it is a thing that we do not often indulge in, especially to such an extent as in the present instance, for which we humbly crave your forgiveness and we promise not to offend again in a similar manner. Think not, however, that we were doomed to reach the hotel without any adventure. As we were coming down the mountain we paused several times to look into some large holes, which we thought might contain rattlesnakes or copperheads, and during one of these halts, as I happened to cast my eyes up to the other side of the road, an animal leaped suddenly out of the thicket, not more than two hundred feet from where we were standing. It was a beautiful creature, considerably larger than a fox, but of a similar color, and stood there quietly looking at us out of its sparkling eyes, and throwing its ears timidly back and forth, just as a fine horse when frightened. I was actually so much taken by surprise that for a while I just stood and stared at it; at last, however, I called the

attention of Mr. Jordan to it, when he immediately recognized it for a fawn or young deer. We both sprang off after it, but on seeing us approach, it wheeled about, and bounded lightly off into the cover. It has always been the practice with novelists to compare beautiful young ladies to fawns, referring to their gracefulness, and if all the fawns move as handsomely as the one we saw, we think that our bright-eyed fair ones will not much suffer by the comparison.

NOTE.—The incident related here of meeting the deer upon the mountain side was not an unusual one in 1840. Deer were abundant on the mountains about Wilkes-Barre, and some years later than the incident related by the diarist a deer, pursued by dogs, rushed down the mountain side, and through Northampton street, swam the river and escaped to the Kingston mountain. The late Walter G. Sterling told me some twenty-five or more year ago that in his hunting experiences he had first and last killed seven deer about on the location of the Glen Summit Hotel.

This afternoon Mr. Jordan and myself procured an old batteau and went out to take a row, which sufficed to amuse us until supper time. The boat was about the hardest article of that sort that we ever had the pleasure of sailing in, bearing a striking resemblance to a coffin—both in shape and colour. It may be supposed that in a craft so inauspiciously constructed, our sail would have been none of the pleasantest—we, however, were not so superstitious as to allow this circumstance to produce any effect. The waves ran very high this afternoon, as high, indeed, as the waves on the Delaware on a rough day, the consequence of which was that we got a most precious pitching and tossing, but the affair went off all safe. So end our adventures for the day. My face has been very much burned to-day by the sun, and feels all in a glow.

Sabbath, 9th August.

NOTE.—It will be noticed that the diarist uses the term “Sabbath” instead of Sunday, with which word it is said not to be strictly synonymous. Sabbath denotes the institution; Sunday is the name of the first day of the week. The Sabbath of the Jews is on Saturday, and the Sabbath of most

Christians on Sunday. In New England the first day of the week was in the early times almost universally called "the Sabbath" to mark it as holy time.

This morning, having made inquiry as to the whereabouts of the Presbyterian Church, I directed my steps thitherwards, and having reached the place, proceeded to reconnoitre through the crack of the door, before making my grand entree? I perceived that the pews were very inconveniently arranged for a stranger, as you had to enter with your back to the pulpit, and face the congregation, upon observance of which I came to a dead halt—owing either to my not liking exactly to march up under full fire from so many bright eyes as were there assembled, or perhaps through fear of carrying the whole church before me out at the other end? As undoubtedly the entrance of such a "distinguished stranger", as your humble servant, would or at least ought to have produced no small sensation. Be that as it may, as was above stated, the halt was made, and how long it might have continued is beyond the knowledge of my understanding, but fortunately relief was at hand, in the shape of an invitation from an old gentleman who came in, to take a seat in his pew, which I certainly made no bones of accepting. It occurred to me at the time he must have been a man of *no small discrimination*, to judge from my phiz, what a talented *young gentleman* he had got hold of.

NOTE.—The Presbyterian Church of that time was a frame structure which stood where now stands the Osterhout Library, with the pulpit toward the street, and the congregation facing the entrance. This structure was taken down about 1850, and was re-placed by the new church, which has been converted into the Osterhout Library.

The preacher fairly tired me out—that I must confess; he was one of the most drawling preachers I have ever come across during the course of my travels.

When the purse came round at the close, I searched my pocket for a penny, but, confound it, not anything less than a "levy" could I find, which in consequence had to be thrown in, seeing that I was ashamed not to throw anything in,

when the old fellow had been so impressed with my dignity as to invite me into his seat. Just to think of a whole "levy" gone, and that, too, for the benefit of a parcel of chaps to whom I, the donor, was a perfect stranger! Absolutely scandalous! Wasn't it? Well, I suppose I must console myself with Jacob Faithful's maxim: "Take it coolly; what's done can't be helped."

NOTE.—The contribution of a "levy" to the church collection recalls the fact that the silver currency of the time was based on the Spanish dollar, and a levy in Philadelphia and a shilling in New York were each equivalent of twelve and one-half cents; the silver piece of one-half that amount, to-wit, six and one-quarter cents, was known as a "fip-and-a-bit" in one locality and as a "six-pence" in another—the prices of goods offered for sale in the stores were stated in one or the other of these terms. The contribution of a levy to the ordinary church collection would at that time be regarded as unusually liberal.

After dinner Mr. Jordan and myself walked over to the old entrenchments (about four or five hundred yards from the hotel) and seated ourselves there for a while, to think upon the past. Now, then, here would be a fine field for some more poetry, such as that in yesterday's journal, but we promised not to be again guilty of anything of the kind and we always keep our promises, so *mum*.

NOTE.—The entrenchment mentioned was what was known until recent years as the "Redoubt". This was a rocky ridge formation just above Union street, and crossing what is now River street, and extending from near the river to a point between River and Franklin street. In later years River street was cut through and since then the Redoubt itself has been entirely removed, but some remains of the formation are still shown at the junction of River and Jackson streets, on the premises occupied by the George W. Leach house. This natural Redoubt was availed of by the Connecticut settlers in their controversy with the Pennamites.

I walked round during the afternoon to the Episcopal Church, but finding it closed, returned to the hotel, went up to my room, threw myself upon the bed, and was soon embraced in the arms of Morpheus, from whom I did not

escape until tea time. During the evening I walked round to the Methodist Church, and there heard an excellent sermon—indeed, in some parts the speaker became quite eloquent; there was likewise none of that rant about him, which is often so objectionable in the Methodist oratory. So ended the events of the day.

Monday, 10th.

This morning Mr. Jordan and myself, according to agreement, went out to take a ride up the valley. He had some business a few miles up, and after remaining there a few minutes, declared that he must return to Wilkes-Barre, as he would otherwise miss some two thousand dollars. I must confess that this declaration did somewhat destroy my equanimity, for it had been agreed between us—at least so I thought—that the ride should extend up as far as the monument. Nevertheless, I was necessitated to return with him and accordingly did so, very much against my will. After our arrival at the hotel he went off to look after the Rhino, while I, having the horse and wagon to myself, started to take a small drive around the town, which I continued through the principal streets.

NOTE.—The term “Rhino” was a slang term for money and in this instance had reference evidently to the \$2,000 collected by Mr. Jordan.

During the course of my peregrinations I met my friend of the church yesterday, who stopped me and desired to know the young gentleman by name, to whom he had given a seat in his pew on the preceding day, in which very reasonable request I was very happy to gratify him, and after sundry bows, scrapes and compliments, we parted on the best terms imaginable.

This evening I called to pay my last visit to the ladies. When I first arrived I found none but Mrs. Osterhout at home, with whom, however, I seated myself, and we had a very clever talk until the arrival of Mrs. Stille. Mrs. Osterhout said she hoped she would have the pleasure of seeing me again at Wilkes-Barre, when she trusted she would have an opportunity of introducing me to some of the young

ladies of the place, which last is certainly a consummation devoutly to be wished. I should like to remain here another day, as the ladies were telling me that there will be a general turnout of the Wilkes-Barre girls to-morrow—they having determined to visit the court house “en masse”, to hear some lawyer of the name of Woodward address the jury in behalf of four Irish men now on their trial for murder.

What a grand array they will all make, seated in the dirty court room, and hanging with rapture on the tones of this American Cicero! Who could not speak eloquently when encouraged by the smiles of so many listening fair ones? I suppose they should tempt him to plead *his own* cause, in place of the cause of the prisoners at the bar; suppose we should see in the papers as the latest case of absence of mind, that the eloquent Mr. Woodward, when he should have said “May it please your honor, I stand here to-day to plead the cause of my innocent and much injured clients”, said in place there of, “My dear Miss there, with the laughing black eyes, I stand here to-day for the purpose of asking you to marry me”! Actually awful, isn’t it? Really the man’s in danger.

NOTE.—The Woodward referred to was George W. Woodward, at the time a young lawyer of about thirty-one years of age. He had already achieved distinction at the bar, and when only twenty-eight years of age took a leading part in the Convention in 1837-’38 that framed the Constitution of the State; he later became a member of the Supreme Court and Chief Justice of Pennsylvania. He was the father of the late Hon. Stanley Woodward, and grandfather of the present Judge John Butler Woodward.

At the present day the business of this populous county is so great that our Courts, composed of six law Judges, are in almost continuous session, and a term of court is therefore now a commonplace affair, but in 1840 the sitting of Court happened only four times a year, in the months of January, April, August and November, and with only one Law Judge, was an important event in the life of a village of the size of Wilkes-Barre. It was often made something of a social affair, when as narrated by the diarist, some inport-

ant case was on trial, and ladies availed themselves of the opportunity to attend.

Forensic oratory was in favor and quite the fashion, and it is safe to assume that on such occasions the arguments of the lawyers were framed almost as much to edify and entertain the fair auditors as to convince the Court and jury.

This evening, after I returned home, Mr. Jordan gave me a package containing some two thousand dollars to carry home for him. I had some scruples in my own mind about taking it, but at last agreed to do so, and chalked off to bed, meditating on robbers, etc., etc.

NOTE.—The request to carry the two thousand dollars in money to Philadelphia was not an unusual one, inasmuch as there were no express companies and no other safe way for the transmission of funds. The Wyoming Bank, the only banking institution of the time, as well as individuals who desired to remit moneys to Philadelphia for the purposes of exchange or payment of merchants' bills, availed themselves of the opportunity to send funds by the hands of men of character whom they could trust.
Tuesday, 11th.

This morning I parted from the beautiful village of Wilkes-Barre and the fair valley of Wyoming, and that, too, in a conveyance by no means so classic as might have been anticipated in so romantic and poetical a situation, for it was even in that most humble of vehicles, a market wagon. We had five miles to ride up a mountain, in order to reach the White Haven railroad, which has reached the summit, and is to come down the hill by three inclined planes, now in the course of being constructed; of all the rough rides I ever had (and I had hitherto thought that some of them were pretty good specimens), this was decidedly the worst. The road actually beggared all description—we might almost as well have driven through the forest at once. Now and then, to be sure, we had some small respite, when we came to the grades of the new inclined planes, but well might it be said, as of the immortal Washington, "it was a road, taking it all in all, we ne'er shall see its like again"—at least I hope so. Upon arriving at the top we took a car there provided, which was drawn by a couple of horses, who

trotted along at one side of the track, and were attached to our vehicles by means of a rope—thus drawing us along canal boat fashion. Among our passengers we had one *original*, quite a droll genius, who exercised his wit on almost everything we met with, and with a very good grace, too, keeping his countenance drawn up with an air of the most imperturable gravity, and never deigning to join in the mirth that his observations excited, not even by so much as a smile. While we were in the wagon I happened to enquire of him what sort of cars the company had? “Why, sir,” replied he, “they have a variety of cars on hand; they have one covered, which they usually manage to send in *dry* weather, but for the rain they generally accommodate passengers with an open one.” It must be remembered that the day was damp and wet. The course of the railroad is very wild, passing through forests almost uninhabitable—mountains on every side, no matter in what direction you turn your eyes. Over one hill there is a temporary inclined plane, which will be removed on the completion of a tunnel, which is now being made. We were drawn up one side of the hill by mules, and allowed to descend the other side by the force of gravity, which processes were neither of them altogether to my liking, since had the mules broke loose or any other accident happened, we might have descended with a velocity somewhat greater than would have been agreeable. Be that as it may, however, we reached White Haven about noon, and then took dinner, after which we entered the canal boat on the Lehigh navigation, bound for Mauch Chunk.

NOTE.—The railroad from the top of the mountain to White Haven now forms a part of the New Jersey Central road. After the completion of the planes, which happened shortly after the date of this journal, cars were hauled by horses from the foot of the planes to a railway station erected on South street, and located on the present premises of Mrs. W. L. Conyngham.

The Lehigh is a very romantic stream, winding through banks covered to the water's edge with lofty forests, whose solitudes are disturbed for miles together by no human

sounds, save those caused by the passing of the boats, and the managing of the locks. Towards Mauch Chunk the banks become mountainous, and rocky, and exceedingly picturesque—some of the rocks have a very fantastic appearance, especially at a place called the ox-bow, where there is a great bend in the river. There is one rock here that is very prominent, standing alone, with a pine tree waving from its top, and to which a very expressive appellation has been given—"The Devil's Pulpit". Whether his infernal majesty was ever caught in the act of holding forth here, or not, my informant was unable to say, but such is the name, and we shall leave it for other antiquarians to decide as to its origin. In several places I observed what were called Rollways, consisting of a species of steep inclined planes, down which the timbers are thrown from the top of the mountain.

The distance between White Haven and Mauch Chunk is twenty-five miles, and in that distance there are no less than twenty-nine locks, most of them of twenty, twenty-five, and thirty feet lift, and each of them accompanied by a dam across the river, with a fall equal to the lift of the lock.

The expense of constructing these locks and dams must have been very great—too great, as I should think, ever to repay the company. I had quite an argument this afternoon, in endeavoring to prove to some of the passengers that these great lifts wasted more water than if the same height were overcome by several successive locks of a smaller lift; succeeded, however, in convincing them at last. The Beaver Meadow Railroad runs parallel with the canal for a considerable distance before you reach Mauch Chunk. When about five or six miles from this last place we received on board a number of young ladies—real smiling bright-eyed fair ones, who kept us lively during the remainder of the passage. Shortly after eight o'clock we arrived at our destination and immediately after supper I decamped to my room, where I was speedily embraced in the arms of Morpheus.

NOTE.—At the time mentioned the Lehigh river was what was known as slack water navigation, and formed a very important highway. Boats were owned and operated by the Lehigh Coal and Navigation Company by means of twenty-nine dams and locks between White Haven and Mauch Chunk, as mentioned by the diarist.

This state of things continued until 1862 when, as a result of violent storms, a great flood happened in the Lehigh river all dams were swept out, accompanied by large loss of life, especially at Mauch Chunk, where the water reached up far on the hillside. There was a general protest against rebuilding the dams, and they were abandoned. The Lehigh Valley Railroad Company and the Lehigh Coal and Navigation Company extended their roads to White Haven, thence over the mountain to Wilkes-Barre. Remains of the locks to a considerable extent can be seen from the car windows on trains both on the Lehigh Valley and Central Railroad of New Jersey.

We are at the end of this very pleasant recital of the experiences of the young Philadelphian in the vale of Wyoming in the year 1840. Were he yet living he would be near the century mark, and would see changes greater than he could possibly have imagined.

When he visited Prospect Rock in 1840 he looked upon a scene of rare beauty, embracing a flowing river, and mountain forests, attractive villages, green meadows and waving grain fields, interspersed with bits of woodland, while to-day, were he here, he would look upon towns whose natural beauties have been enhanced by the artistic hands of the architect and landscape gardener, but at same time are hives of industry embracing great mining and manufacturing plants, and together containing a population of upwards of two hundred and fifty thousand souls.

More than that, from Prospect Rock he could overlook the great anthracite coal field of the Wyoming Valley, producing every year fifty million dollars worth of anthracite coal, thus justifying the declaration of the late Charles Parrish, the greatest coal operator of his time, that this valley in extent three miles wide by twenty miles long is the most valuable bit of territory of its size on the surface of the globe

THE FIRST ANNIVERSARY OF THE WYOMING HISTORICAL AND GEOLOGICAL SOCIETY, HELD 1859.

READ BEFORE THE SOCIETY BY GEORGE R. BEDFORD, ESQ., DECEMBER 10, 1915.

The Wyoming Historical and Geological Society was founded on the 11th of February, 1858, and hence its first anniversary on 11th February, 1859, at which time an important meeting was held, followed by a dinner at the Phoenix Hotel. A full account of this anniversary meeting was given in the "Record of the Times", February 16th, 1859, a weekly publication, of which William P. Miner was editor and proprietor, who some years later founded the daily edition of the paper, which was then called, and since, been called the "Wilkes-Barre Record".

Following is the newspaper account of the meeting:

"THE ANNIVERSARY OF THE HISTORICAL SOCIETY.

"Friday, the 11th inst., was the anniversary of the birth of this Society. In accordance with the published notice that the rooms of the Society would be open to the public, Friday morning found the hall well swept and warm, and the neat appearance and systematic arrangement of the curiosities of the museum fully explained the reason why for the past week a bright light has glimmered upon Franklin street from the room windows almost till the morning sun has extinguished it in his bright beams.

"An eager crowd from early in the forenoon until late dinner time poured up the stairs and showed by their numbers the interest excited in town, and by their pleased and surprised countenances how well they considered the public interest repaid and deservedly earned.

"About one o'clock the members of the Society and its friends gathered informally in the 'Old Fell House' in the identical room, where upon the identical hearth, the identical

grate, in which the experiment of burning the anthracite coal of the valley was first successfully made upon that identical day fifty-one years ago, was piled to its brim with red hot glowing coals of the same anthracite character. The company passed a couple of pleasant hours peering curiously at the singularities of the old building, wondering at its limited conveniences in proportion to its massive structure, and in listening to the stories of the early times and gay parties the old walls had seen.

"The ball room drew forth an amusing fund of reminiscences. It is a room on the ground floor, paneled as all rooms of that date of the beginning of the century were, about thirty feet long and fifteen feet wide and seven feet high. It is divided in the middle into a drawing room and kitchen by a partition, which is swung on hinges at the top, and may be lifted up and hung on hooks driven into the ceiling. A huge fireplace occupies nearly the width of the room at its kitchen end, and on state occasions was piled high with logs, and at times the dining table and chairs were cleared away, and with a fiddler in the chimney corner, away went the merry dancers down the middle and back—cast off and down the outside—join hands four—till the candles burned low, and flickered in the light of coming day-break.

"One anecdote was told illustrative of the times and of the ardor our grandfathers and grandmothers pursued their pleasures as well as their labors.

"A party from out of town had gathered under the then grand roof, fully equipped and anxious for a dance. The dances had been numerous that winter and candle dip had run low, so low, in fact, that there were not enough in the house or in the adjoining groceries to illuminate the ball room, but they were bound to have a dance and a light to see by. Placing a keg of Monongahela in front of the big wood fire a boy was set a straddle of it with direction so to manipulate the tap as to keep a steady stream of the fiery spirit upon the blaze, and so judiciously did the youth

perform his slightly adventurous duties, and with such success that not a merrier party tripped the toe upon the well-worn floor that season, and the barrel was not so empty but at the close of the dance the gallants had sufficient to toast the health of their lady loves."

At about half past two the Society and invited guests sat down to a substantial and sumptuous dinner prepared by mine host of the Phoenix Hotel. After grace by the Rev. Dr. Peck (not so long that the dinner got cold by waiting) on hour's serious discussion of the viands ensued. That Mr. Gilchrist himself superintended the tables is a sure pledge that the eatables were duly appreciable. When the noise of rattling of knives and forks had about ceased from sheer exhaustion, E. L. Dana, Esq., the chairman of the day, rose, and in a few appropriate words gave a history of the origin, formation, progress and proceedings of the Society and of the occasion of their meeting.

J. B. Conyngham, Esq., on behalf of the Committee of Invitations, read some very interesting and congratulatory letters from Rev. Dr. Richards, of Darby College, New Hampshire; Prof. J. R. Loomis, of University of Pennsylvania; Thomas Sweet, Esq., of Providence; James Archbald, Esq., of Scranton, and from William S. Reddin, Esq., of Pittston. A telegraphic dispatch was received while at the table from C. L. Ward, of Towanda, dated from Burlington, and proposing as a toast:

"Wyoming warriors sons of old,
And matrons worthy of their time,
Deep in our inmost hearts we hold,
Their memories sacred and sublime."

The Chairman then read the regular toasts in order:

"THE MINERAL DEPOSITS OF LUZERNE."

Responded to by V. L. Maxwell, Esq., who said:

"The celebration of this anniversary has seemed to be appropriate for many reasons.

"We are here in the midst of the largest anthracite coal fields in the world; and when we look at the geological map of our State, it stands out conspicuous above all others, and we cannot but point to it with pride, as the region of our homes and the basis of our wealth. Other coal fields are somewhat nearer the seaboard markets, but this is within their reach. From its northern extremity coal is carried with advantage to New York and the East; and its southern point, lying low upon the Susquehanna, supplies Southern Pennsylvania, Baltimore and the South. The centre is likewise pierced by three railroads, also carrying its treasures to the seaboard; and by a canal and a railroad from the north opening up to us a valuable market, in which no rival coal field can trouble our collieries.

"It possesses also a historic interest. Here anthracite coal was first found by the eminent grants of New England. Here ingenious and enterprising mechanics first learned to use it in the forges. This valley also sent the first anthracite to market; and even during the Revolution supplied its fuel to the fires of our first national army.

"It was an honored citizen of this town, who first proved by successful experiment the utility and value of anthracite coal. It was another honored citizen of this valley, yet living among us, who in 1813 first projected the railroad and canal now crossing our mountain barriers, and carrying coal to the Atlantic cities. In this enterprise he and his associate, Jacob Cist, first led the way successfully.

"They transported the first coal favorably received in the Philadelphia market; for they carried it to the right men; to men who were able to comprehend its value and to appreciate the feasibility and importance of the railroad and canal thus projected for their future supply; men who had heads and hearts and courage to undertake the work and carry it through.

"These men ought not to be forgotten, and I trust never

will be forgotten. We all cordially respond to this remembrance of our mineral treasures, but let us ever connect with them the names of Charles Miner, Jacob Cist, Josiah White, Erskine Hazard and Maurice Wurtz, who first turned the minds and the hearts and the judgments of Pennsylvanians and others in favor of these great internal improvements centering in this valley, and which, in consequence of its mineral wealth, have become national in their character and effects."

"THE REMAINS OF THE RED MAN."

Responded to by the Rev. Dr. Peck of Scranton :

"The history of the American Indians is an anomaly in the universe, their traditional history is involved in mystery—their written history, every line of it is stained with blood—their true history is unwritten, and will remain so until the wailing of the last Red Man shall die away upon the breezes of the Rocky Mountains. The Indians have sinned, they have sinned grievously. They have ravaged and desolated unoffending settlements—they have bathed their tomahawks and scalping knives in the blood of women and children—their savage hearts have known no pity, but while it is not to be disputed that they have sinned, is it not equally clear that they have been sinned against?

"The first complaint that they make is, that the pale faces wrested from them their land—driving them from their hunting and fishing grounds and from the graves of their fathers.

"Another complaint is that the whites have imparted to them the vices without the blessing of civilization—these vices have been the means of sadly demoralizing their character and diminishing their numbers. An Elliot, a Brainard, and others had succeeded in producing an impression upon the savage heart, and laid a foundation for a hope of their elevation, but the wars in which they became enlisted

blasted all their hopes. For this great evil civilized and Christian nations have been largely responsible and the poor Indians have been the victims of a stupendous wrong.

"They owe to the white man their intemperance, and the influences which have inflamed their savage natures to deeds of cruelty, with many other sins which have degraded them from their native simplicity and nobleness of character. An Indian once declared in my hearing that the white man "brought the devil here—for" said he "before the white men came to this country, the Indians were sober, honest and happy."

"The Red Men, I repeat it, have been sinned against. They have been sinned against by the British and French governments—they have been sinned against by land speculators and government agents, and I would that I could say that they had not been sinned against by the Federal Government itself."

"RELICS FROM THE OLD WORLD."

Responded to by Dr. Ingham:

"Gentlemen: As it has become my province to reply to the sentiment you have just heard, I have to regret that I am, perhaps, without a single qualification to appear before you as a speaker—not that the cause we are engaged in demands ingenuity of argument or rhetorical flourish for its advancement, no—for its merits are so palpable that even the plainest diction cannot fail to do some good.

"In this view permit me to make reference to a few of the leading circumstances connected with the origin, design and success of our association. As to the time of its origin I need only to say that this is a day of its date, and the many happy faces around me, the figures of its calendar. I was not so fortunate as to be of the praiseworthy company at the first, but I can readily imagine that it was one of much pleasure where many joyous reminiscences flashed

upon the mind to enliven the conversation and enrich the anecdote, and that finally a good share of satisfaction remained to each from the reflection that whatever should betide, they had at least originated the idea of a laudible, a highly useful association.

"It devolved upon the few early members to provide, as it were, the corner stone, and to this task they applied themselves with alacrity; the hills were crossed and dark anthracite vaults resounded for a time to stranger steps, and soon the corner was firmly laid. No monumental arch, no temple or shrine, can boast of more befitting stone.

"On this, the ceral rock, by fossil flora are inscribed high attributes to God, his wisdom and his power in language universal, in characters not formed by man. (Here the speaker paid a tribute to the generosity of General Ross) whose gift he said: 'Cannot be subject to the contingencies of things perishable—for this act of generosity must endure in grateful remembrance far in the distant future.'

"As yet there are but few among us who watch the rapidly extending moral influences of this institution, or are aware of the liberal and wise feelings engendered by it. The circle of its influences cannot fail to extend—but as I have before said, there is much to be done.

"I feel conscious that in view of the future, it is not too much to say that our institution will yet be held as the great and indispensable auxiliary to all public teachings, whether from the school, the bar, or the pulpit, for in time to come there will be stores of knowledge in these cabinets, in these portfolios, which will be sought for in vain in books.

"For who will be fully and properly informed on the thousand points connected with the wonders of art, without that demonstration here to be afforded? How far does the reading in numerous instances fall short in conveying a knowledge of color, form, weight, size and other properties of matter?

"Who among us has not derived more satisfaction from an examination of our specimen of the Atlantic cable than by the perusal of all that has been put forth on the subject? Could either of us apart from those specimens, by description, arouse in the minds of our hearers that spirit of general inquiry that will so often follow the inspection of those threadless fabrics of the Sandwich Islands?

"And thus we might go on to exemplify the utility of this institution and show its intimate relations to a system of liberal education.

"What have we that may command attention from the theologians? I answer much; and more there will be—already can be seen that, which to the men of contemplation will not fail to be improvingly suggestive, for much has it to do with the rise and progress of Christianity; the history of the valley of the Nile is inseparably connected with that of the land of the Patriarchs. The argument is strong, the lesson plain when the benign influences of Christianity are shown by contrast with the blind, yet curious teachings of idolatry, whether in Mormon or in Druid temple, on Aztec sacrificial stone, or within the secret depths of the Egyptian pyramids.

"And yet how much more mighty are those other sacrificial stones from pyramids not made by hands; the lofty altars of the living God, the domes and minarets of earth:

"'Tis not alone the blood of goats and lambs, nor yet the ox in hecatombs, which here has left the stain, far mightier was the sacrifice, a whole organic world was at each time the great ovation."

"THE MUNIFICENCE OF WILLIAM S. ROSS."

Responded to by the President of the Society and of the day, E. L. Dana, Esq.:

Mr. Dana gave a very graphic sketch of the condition of the Society at the time when the purchase of Mr. Chamber's

collection was first broached—the bare walls of the room—the lack of public interest, and the almost discouragement of the members; and their wishing for something worthy as a nucleus around which to gather together the curiosities and relics of the valley. Something really valuable to give the public assurance of their purpose and security for mementoes entrusted to their keeping; the first whisper of the collection of Mr. Chambers; the rumor of its being for sale; the committee's visiting it and reporting on its value; the schemes for its purchase; the impossibility of perfecting them; the forlorn hope of interesting some wealthy individual in procuring it; the mentioning of the matter to General Ross; his listening to it; considering of it, favoring it, and finally concluding to present it to them.

“All these were told simply, but elegantly, as only Captain Dana can tell a story, and effectively, and when he closed, after a few remarks upon the value to the Society of the present, by stating that the papers for the museum were to be formally delivered to the Society at the meeting in the evening, a tornado of applause told how well the generosity was appreciated and how happily the speaker had storied it.”

“THE MEMORY OF JACOB CIST.”

C. E. Wright, Esq., responded as follows:

“I feel great pleasure, Mr. President, in attempting a response to this toast. Yet I am free to acknowledge my incapacity of doing even partial justice to the memory of the learned scientific and distinguished gentleman, who forms the subject of the sentiment just offered.

“The name of Jacob Cist is conspicuous in the history of our valley's prosperity—it is deeply graven on every enterprise of his day, and is remembered with just pride by our citizens. I may add, it is a name that his descendants may regard as the most invaluable of legacies.

“Permit me at this social gathering, a brief indulgence in

reminiscences, which if not a matter of profit, may not be unsuited or uninteresting to the occasion. They are grateful to my own remembrance, constituting, as they do, my personal recollections of the man. The last time I saw him was at my father's house, where on a Sabbath but a week or two before his untimely death, he came to pay a friendly visit. He was then worn, feeble and emaciated. A greater part of the time he passed in bed. I am aware these may seem meagre incidents to you, but to me they are far otherwise. They are referred to not without purpose, for they stamped an impress on my youthful mind that will never fade. They captivated me as a demonstration of urbanity, graceful ease and quiet dignity inimitably pleasing. Do not understand, I pray you, that I had never seen a gentleman beneath that roof before; it was the first by whose fascinations I had been electrified.

"Jacob Cist was associated with all the growing impulses of his day, having in view the prosperity of his adopted valley, and the accumulation of scientific and general knowledge.

"Added to his deep and extensive acquirements in the higher branches of scholastic learning, philosophy and science, he was possessed of those beautiful and graceful accomplishments that lend so much to the delights of human taste. The pen, the pencil, the brush, and the crucible were alike familiar to his hand. Their demands upon his time left him never an hour's relaxation. His hands and his mind knew no release from incessant labor. The rare endowments nature had bestowed and education had enhanced were chiefly directed to the development of the wonderful resources of our Commonwealth. Those were all within the scope of the mental vision of this superior man whose foresight outstripping the day in which he lived, acquired him the wrongly imputed reputation of a visionary fanatic. He was leader in those local enterprises, the harvests of

whose ultimate success we now reap. It was his pen that awakened by a long series of letters and communications the American mind to the importance of anthracite for domestic and manufacturing purposes. He was first in essaying the development of the vast mines of the Lehigh as well as the equally inexhaustible beds of Wyoming. He was familiar with the extent and quality of the iron deposits of Montour.

"At the time when Pennsylvania, intoxicated by the experiments of New York, grew insane upon the subject of canals, Mr. Cist stood almost alone in his advocacy of the superiority of railroads. He urged with all his powers the building of a great trunk line across the mountain barriers to the waters of the Atlantic. His far-reaching mind had foreseen that the sluggish canal would be inferior to the mighty train—that the iron track, stretching away to the sea coast would make the borough of his home what Manchester is to the British Isles.

"Our neighbors of the Lackawanna laid hold on the thread in 1850 which the prophetic genius of Jacob Cist had spun in 1826. Let me add, in conclusion, but without any purpose of being invidious, and with the hope of offending no one, that I regard this man, all in all, as perhaps the greatest of our predecessors."

We regret exceedingly that we missed hearing the two following toasts:

"The Memory of Mattias Hollenback and Jesse Fell," responded to by Colonel H. B. Wright, and the seventh regular, "The Historians of Wyoming, Chapman, Miner and Peck," responded to by Judge Conyngham. But we were called away by unavoidable business. We hope, however, the addresses will be printed, as from the character of the speakers, and the subjects appointed them, they could but be worthy of reading.

The afternoon had well worn away, and the subsequent toasts upon the programme were read without any responses.

(8) The Wyoming Historical and Geological Society—its objects are entitled to the respect, the sympathy, and aid, and its success to the confidence of an intelligent public.

(9) The patrons who have in the infancy of the Association entrusted their donations to its care, and with their favors imposed an obligation most binding, and for whose full discharge the whole future is pledged. With a few remarks from the President congratulating the Society upon its appearance for its age—its future prospects, the pleasant anniversary, and expressing to the host the thanks of the company for the luxurious repast that had been enjoyed the company dispersed, well satisfied with the afternoon's enjoyment, while the members of the Society adjourned to their rooms to attend to their regular business, this being their monthly meeting.

At the close of this most interesting account of the first anniversary of this Society, Mr. Bedford added to the pleasure of it by reading an additional article, which appears in the following pages, describing the "Wyoming Valley and Wilkes-Barre as they appeared to a visitor in 1859."

THE WYOMING VALLEY.

FROM THE PHILADELPHIA "NORTH AMERICAN" AND
"U. S. GAZETTE", SEPTEMBER, 1859.

WILKES-BARRE, September, 1859.

To the corruption of an uncouth aboriginal synonym for "The Big Plains", history and poetry are indebted for the classic and euphonious name of Wyoming. And both the historian and the poet have found in the earlier annals of the lovely vale to which that name belongs, in the contentions, the struggles, the bloody baptism of its infant colony, as well as in the suggestive features of its unrivaled scenery, themes of thrilling narrative and romantic story, stately prose and flowing verse.

To review the events of the past is beside my purpose. To describe, with any approach to fidelity, the present aspect of the valley, is beyond my power. It might, indeed, task to the utmost the most expert master of the felicities of diction to convey to the mere reader an adequate idea of realities, such as here exist in beautiful and harmonious combination, and which must be regarded in the aggregate to be appreciated. The mountain ranges, on either hand, tracing with their forest-fringed summits, bold and graceful boundary lines between the dark verdure of earth and the bright azure of upper air are grand and noble features, but the charm of the landscape is not in the mountains. The lesser hills, innumerable, infinite in variety, swelling from the plains, mantled with cultivated fields, and lifting, to half the mountain's height, the domains of rural industry and successful tillage, are also beautiful; but the charm of the landscape is not in the hills. The winding Susquehanna and the exuberant plain, dotted with towns and villages, are pleasant to behold; but the charm is not in the river, or the plains. It is in the soft, gradual, unabrupt blending of all these, without striking contrast or sudden transition. The plain, tinging the stream with reflected verdure, merges

in the hills; the convoluted hills lose themselves in the mountains; the mountains, gradually enclosing the whole, form the wall of what may, by a legitimate indulgence of fancy, be compared to a paradisiacal nest, suspended from the blue vault above.

Such is the general character of the valley, viewed as a whole, though, if examined a little more in detail, rocks, precipices, chasms and other rugged features may be discovered in abundance; and however much like Eden it may appear in other respects, the similitude certainly holds good so far as the "trail of the serpent" is concerned; rattlesnakes, copperheads and other varieties of the reptile, having their haunts among the woods and rocks of the vicinity.

Wilkes-Barre, the central and most important town of the region, is reached from Philadelphia by either of three different routes. First, by way of the Reading Railroad to Port Clinton, thence over the Catawissa road to Rupert or Danville, from either of which places the cars of the Lackawanna and Bloomsburg road convey the traveler to Kingston, a pretty village about a mile from the borough on the opposite side of the river. The second route is by way of Trenton and Belvidere, in New Jersey, from which latter place the connection with the Delaware, Lackawanna & Western road, at Bridgeville, about three miles distant, is made by stage; thence over a broad gauge track, by way of Delaware Water Gap, to Scranton, where cars are again changed and passengers brought down over the Lackawanna & Bloomsburg road to Kingston. Thirdly, the journey may be performed over the North Pennsylvania, Lehigh Valley, Beaver Meadow, and Hazleton roads to Eckley, thence seven miles by stage to White Haven, whence there is direct communication by rail with this place. The latter is much the shorter route, though, on account of the staging, is not so popular as it might otherwise be.

This town is one of the most pleasant in the State, delightfully situated upon a wide plateau, laid out with considerable taste and ample allowance of space, and contains

many handsome residences. Being a place much visited by summer tourists, it is rather deficient in hotel accommodations and attractions, and would doubtless sustain, in addition to the present houses, generally resorted to, (which are very good, but of limited capacity) a first-class hotel of modern construction, and containing such improvements and conveniences as travelers now-a-days regard as indispensable. At the head of such a house, Mr. Jack Gilchrist, the present attentive host of the Phoenix, would cater to the increased satisfaction of his guests, and doubtless with well merited benefit to himself.

There are quite a number of valuable improvements, in the way of building, now in progress here. A few months ago, a row of buildings of little value, facing the Public Square, was destroyed by fire, and a handsome block of brick stores is now being erected upon the site, and will, when completed, add much to the appearance of the locality, which is the center of business.

Messrs. Hollenback and Reets are putting up an iron front store, the first of the kind in the borough, which will be commodious for business purposes, as well as ornamental, and will probably prove the pioneer of other similar architectural enterprises.

The Luzerne County Court House, now nearly completed, is, and will probably be for some time the most noticeable edifice in the place. It is an unusual, if not novel, specimen of the court house architecture of Pennsylvania. The style is the Norman; the materials of the walls brick, trimmed with a fine granite from the vicinity; the beams and girders are of iron; the roof is of slate, and with the exception of flooring and furniture, the whole is fireproof. The front or transverse portion of the building is 104 feet in length, by 50 feet in depth, and affords, in the two principal stories, ample accommodations for the clerks, Prothonotary, Recorder, Sheriff, and other county and borough officers, grand jury rooms, and the like. The main building is occupied by the court room, which is one of the best

arranged and most commodious of which I have any knowledge. Neither in Philadelphia nor in New York is Justice so comfortably and luxuriously seated, and I doubt if anywhere those who come into the halls made sacred by her hoodwinked presence, whether as Judges or jurors, counsel, suitors, witnesses, or auditors, enjoy more ample space, more perfect ventilation, or more convenient means of ingress or egress than are enjoyed in this handsome temple of inland litigation. The narrow, crowded, noisome dens in which some of the courts of Philadelphia and New York are held, would seem to be designed for the trial of the health and lives of all the parties, as well as of the cases on the docket. Unless it be deemed expedient to render law as deleterious as it is expensive, it would be well if this Wilkes-Barre institution were generally resorted to as a model. The architect is a Mr. Wells of New York. I have forgotten his first name.

The Wyoming coal basin contains the most extensive deposit of anthracite known, and this, though not originally a mining town, has become the seat of very extensive and important mining operations, which will, it is to be hoped, yet add to the wealth and prosperity of the community, though under the present circumstances of depression to which not only here, but throughout the State, the mining interest is subjected, but little benefit is realized from the capital, skill and labor employed, and, perhaps, with a majority of the operators, the principal reason for continuing is that they lose less by going on than they would by stopping. The idea of making anything just now, by coal mining, seems to be entertained by none of those engaged in the business, with whom I have had an opportunity to converse. There is, however, sometimes expressed a hope, how well grounded I know not, that a better time is coming, when a truly national policy, fostering national industry by the simple expedient of protecting its products against foreign competition, will enable the miner to find a remunerative market for his coal, the farmer for his grain, and the

merchant for his goods. Whether or not the policy of protection to be the true one, it is not my design in this correspondence to argue, but I record as one of the facts most frequently brought to my notice, that the prevailing and almost universal sentiment expressed by practical men throughout the State, so far as my experience extends, is unqualifiedly in its favor. The question, indeed, is considered, and very properly so, as an economical and not a political one, and by whatever party name a man concerned in the industrial welfare of our Commonwealth may be known, he is certainly an avowed protectionist.

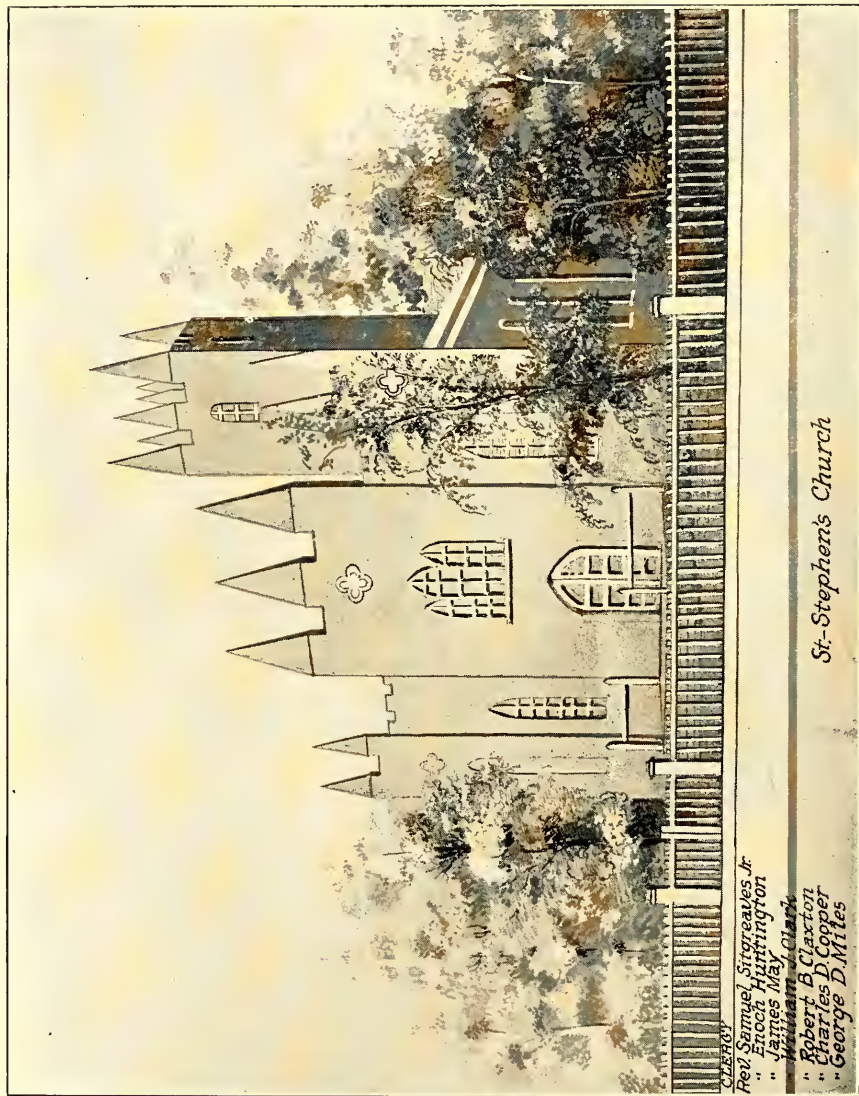
The mines in this region, considered merely as objects of curiosity and interest to the stranger, are scarcely less important than the historical reminiscences and romantic scenes from which the celebrity of the valley is principally derived. The coal veins are of surprising extent and richness, cropping out upon almost every hill, underlying the plains, and frequently concealed from the light of day by the slightest covering of superimposed strata. Horizontal, vertical, or dipping at every intermediate angle, they are worked, with greater or less facility, by every usual method. The tunnel, the slope, and the shaft are respectively employed, according to circumstances, and in some cases open quarries. Of the latter, perhaps, the most remarkable is that upon the lands of the Baltimore Company, about a mile from this borough. There a vein may be seen about twenty-eight feet in thickness, into which the miners have worked deeply, though on account of the dangerous character of the employment they work it no longer. A vast cave remains, through which the curious visitor may wander until weary, but the cracked and threatening appearance of the roof warns him of danger impending, notwithstanding the massive pillars of anthracite, the contents of either of which would stock a respectable city coal yard. Though this vein, which is one of the oldest operated in the vicinity, is no longer worked at the opening referred to, its contents are still reached and brought forth by other avenues, and the

various improvements of the company about the premises are among the best constructed and most valuable of the kind.

As the Baltimore vein is one of the oldest, so the Hollenback mine is one of the most recent of those opened hereabouts. It is in the immediate neighborhood of the former, and promises in time to become equally valuable. It is worked by a tunnel and a slope, the former already penetrating 1,200 feet into the bowels of the land, through a very fine vein. The same vein, which has a very steep, and in some places almost perpendicular dip, is again reached by a slope, from which a gangway extends into a still richer and purer bed of the mineral than that entered by the tunnel, three hundred feet above. I descended this slope upon a car so constructed that the platform remains level, while the track inclines at an angle of about 45 degrees. A longitudinal view of this car represents a right angled triangle, the apex of which is toward the mouth of the slope and the hypotenuse parallel to the track. At the Dundee works a shaft is being sunk, which has already reached a depth of 750 feet without having arrived at the vein sought for. There are numerous other operations within a few miles from Wilkes-Barre, from which, if the market were more favorable, an enormous supply might be derived. The amount now actually produced and sent to market, though large, can hardly compare with that from older and more favorably situated mines, and is much less than the capacity of the present means of transportation.

In beauty, fertility and mineral wealth; in the enterprise, refinement and intelligence of the inhabitants; in all that contributes to render a community happy, prosperous and respected, Wilkes-Barre and its environs are, perhaps, unequaled; and I have visited no place in the course of my wanderings, in which my sojourn was more pleasant, and from which I brought away more favorable impressions.

J. R. C.



CLERGY

Rev. Samuel Sitgreaves Jr.
" Enoch Huntington
" James May Clark
William Clark
" Robert B. Claxton
" Charles D. Copper
" George D. Miles

St-Stephen's Church

ABOUT 1850.

THE PARISH REGISTER OF ST. STEPHEN'S
PROTESTANT EPISCOPAL CHURCH,
WILKES-BARRE, PA.
1839—1866.

(Concluded from Volume XIV, page 262, of the Proceedings.)

The following Vital Statistics of this old Church, completing the record from 1822 to 1866, 76 pages, has far exceeded the expectation of the Editor. But the historic value of the data thus preserved and made public cannot be estimated, as it is the history of so large a part of the resident families of the Wyoming Valley for near half a century.

The Society is promised for future volumes the Vital Statistics of the First Methodist Church of Wilkes-Barre from 1820 to 1866, which, with what has already been printed in Volume V of the First Presbyterian Church, will almost entirely cover the family history of this section of Luzerne county.

H. E. H.

REGISTER OF CONFIRMATION.

1839. BY RT. REV. HENRY M. ONDERDONK, D. D.
Aug. 4. 1. Miss Annabella H. Clark.
2. Miss Frances Butler (Mrs. Shiras).
3. Miss Martha Bettle (Mrs. Sisty).
4. Miss Elizabeth Scott (Mrs. Claxton).
5. Mr. Jenks N. Sherman.
1841.
Aug. 15. 1. Mr. John N. Conyngham.
2. Mr. Volney L. Maxwell.
3. Mr. DeWitt Clinton Loop.
4. Mrs. Rachel Le Clerc.
5. Mrs. Ann T. Slocum.
6. Mrs. Ann Vernet.
7. Mrs. Mary Phinney.
8. Mrs. Sarah Myers.
9. Miss Jane Myers.
10. Miss Harriet Myers.
11. Miss Catherine Scott.
1842.
Dec. 4. 1. Mr. Frederick McAlpine.
2. Mr. Dennis Quillinan.
3. Mr. William W. Wallace.

4. Mrs. Esther Morris.
5. Mrs. Mary Dille.
6. Mrs. Rachel Woodcock.
7. Miss Jane White (Mrs. Frey).
8. Miss Mary Ann Hutchins.
9. Miss Eliza Roche Butler (Mrs. Totten).
10. Miss Sarah Sharpe.

1845. BY RT. REV. ALONZO POTTER, D. D.
Nov. 16.

1. John Patterson.
2. Henry Colt, Jr.
3. George W. Woodward.
4. Isaac Bowman (in private).
5. Mrs. Hannah Detrick.
6. Mrs. Sarah H. Dana.
7. Mrs. Sarah Davidge.
8. Mrs. Mary Ann B. Wright.
9. Mrs. Nancy Severn.
10. Mrs. Gertrude Kröst.
11. Mrs. Rachel Ann McGuiggan.
12. Mrs. Mary B. Purden.
13. Miss Sarah F. Tracy.
14. Miss Hannah Bettle.
15. Miss Mary H. Collings.
16. Miss Sarah Hutchins.
17. Miss Sarah Young.

1848.
Aug. 30.

1. Mrs. Elizabeth Slocum.
2. Mrs. Hannah Hillard.
3. Mrs. Riley.
4. Miss Frances Bulkley.

1849.
Aug. 1.

1. Mrs. Leggett.
2. Mrs. Martha Streater.
3. Mrs. Ellen May Woodward.

1850.
July 10.

1. Mr. Asa Brundage.
2. Miss Elizabeth Bulkeley.
3. Miss Mary Conyngham.
4. Miss Rachel Sharpe.
5. Miss Cecelia Riley.
6. Miss Sarah Ann Thomas.
7. Miss Magdaline Schrader.

8. Miss Elizabeth Schrader.
9. Miss Rebecca Kaser Yarrington (in private).
Aug. 4. 10. Mrs. Maria Mills Fuller (at Honesdale).
1851.
July 6. 1. James Lee Maxwell.
2. Abram Goodwin.
3. Miss Emily Horton.
4. Miss Ellen Scott.
1852.
Nov. 2. 1. Miss Mary Elizabeth Snow.
2. Mrs. Maria Harding.
3. Mrs. Jemima Turner.
4. Mr. John Turner.
5. Mr. Charles Myers.
1853.
June 20. 1. Henry Clay Mills.
2. Anna Maria Conyngham.
3. Martha E. Kidder.
4. Elizabeth Sharpe.
5. Arabella Gray.
1855.
April 19. 1. Sarah I. Myers.
2. Martha Ann Myers.
3. Ellen G. Stout.
4. Catherine P. Dennis.
5. Anne V. Pierce.
6. Mary Elder.
7. Mary Hillard.
8. Cornelia B. Loop.
9. John Barber.
10. Herman G. A. Müller.
1856.
July 13. 1. Ebenezer W. Sturdevant.
2. E. Victoria Kidder.
3. Arabella D. Lewis.
1857.
Sept. 27. 1. Mrs. Rebecca D. Carey.
2. Mrs. Mary Reynolds.
3. Mrs. Elizabeth Collings.
4. Mrs. Amanda Teed.
5. Mrs. Julia Miner.
6. Mrs. Ruth Collings.
7. Mrs. Lucinda C. Myers.
8. Mrs. Isabella W. Bowman.

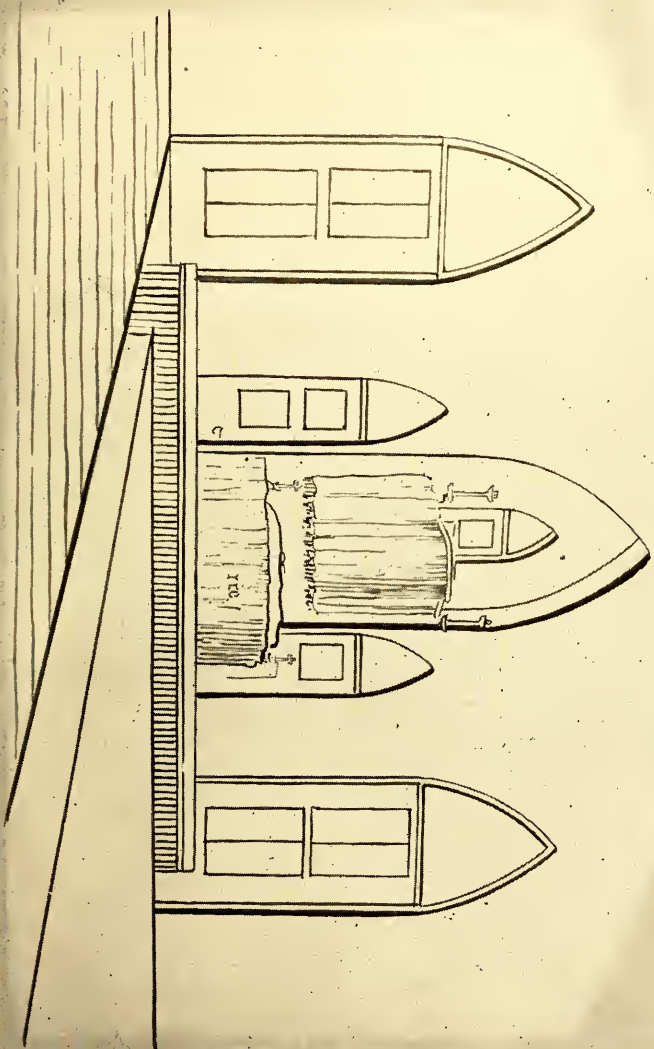
9. Mrs. Clementine Brodhun.
10. Miss Hannah Hackett.
11. Miss Sarah Hackett.
12. Miss Catherine Patten.
13. Miss Phebe Ann Carpenter.
14. Miss Sarah Morris.
15. Mr. Caleb F. Bowman.
16. Mr. E. B. Chase.
17. Mr. C. Edward Butler.

1859. BY RT. REV. SAMUEL BOWMAN, D. D.
Jan. 30.

1. William S. Ross.
2. George Scott.
3. J. Quincy Ingham.
4. Stephen Y. Kittle.
5. Mrs. Sophia A. Kittle.
6. Mrs. Margaret Howe.
7. Sarah Nagle.
8. Sarah A. Dana.
9. Elizabeth C. Maxwell.
10. Mary O. Maxwell.
11. Jennat Jenkins.
12. Margaret Riley.
13. Catherine Mock (in private).

1860.
June 7.

1. Nathan G. Howe.
2. Geo. A. Lennard.
3. Agib Ricketts.
4. Samuel R. Marshall.
5. Mary Willets.
6. Emily J. Thornton.
7. Adelia A. Becker.
8. Martha Stanton.
9. Ellen Hoffman.
10. Kate Riley Snow.
11. Ruth Ann Reese.
12. Harriet Hillard.
13. Olivia Hillard.
14. Abi D. Slocum.
15. Ellen Brodrick.
16. Emma M. Brodrick.
17. Helen M. Reel.
18. Ellen Clary.
19. Elizabeth Wilson Cahoon (in private).



CHANCEL of St. STEPHEN'S CHURCH, WILKES-BARRE,

1861. BY RT. REV. GEORGE BURGESS, D. D.
Oct. 13.

1. Phebe Ann Lester (in private).
2. Margaret Colt.
3. Temperance Chahoon.
4. Helen M. Gilchrist.
5. Sarah G. Leuffer.
6. Eleanor B. Beaumont.
7. Hortense Beaumont.
8. Alice M. Collings.
9. Julia B. Reichard.
10. Catherine F. Reichard.
11. Alice J. J. Argue.
12. Anna A. Argue.
13. Sarah B. Wragg.
14. Mary T. Roth.
15. Julia A. Elliott.
16. Emily Miner.
17. Samuel G. Turner.
18. Henry W. Palmer.
19. Charles L. Bulkley.

1862. BY RT. REV. WILLIAM BACON STEVENS, D. D.
Oct. 26.

1. Elizabeth Elliott.
2. Eliza Ross Miner.
3. Helen Catherine Titus.
4. Elizabeth Riley.
5. Anna Maria Carpenter.
[John C. Morris] of Friendsville, Susquehanna County.

1863.
June 27.

1. Lewis C. Paine.
2. Annie L. Paine.
3. Frederick Pickett.
4. Ann Pickett.
5. Welding F. Dennis.
6. J. Pryor Williamson.
7. Charles H. Kidder.
8. Amanda Butler.
9. Sophie Lippincott.
10. Ellen H. Wright.
11. Caroline G. Wright.
12. Martha Robinson.
13. Elizabeth W. Norton.

14. Amanda R. Cook.
15. Emily Dilley.
16. Grace E. Marshall.
17. Jennie E. Chase.
18. Susan Puterbaugh.
19. Mary Ann Ingham.

1864. BY RT. REV. ALONZO POTTER, D. D.
 Sept. 26.
 1. Josephine Gross Meyer.
 2. Amelta Esther Meyer.
 3. Mary Ann Pickett.
 4. Elizabeth Ann Hamilton.
 5. Margaret Caird.
 6. Charles H. Sturdevant.
 7. George Wilmot Gustin.
 8. Mrs. Chollett.

1866. BY RT. REV. THOMAS H. VAIL, D. D.
 May 8.
 1. Mr. Charles Miner Conyngham.
 2. Mrs. Helen Hunter Conyngham.
 3. Mr. Christopher Eldridge Hawley.
 4. Mrs. Mary Elizabeth Hawley.
 5. Mrs. Charlotte Latham Williamson.
 6. Mrs. Sarah Ann Preston.
 7. Miss Marian Wallace Preston.
 8. Miss Louise Stoeckel.
 9. Miss Ida Catherine Melissa Erdman.
 10. Miss Margaret Augusta Abeel.
 11. Miss Elizabeth Shoemaker Meyer.
 12. Miss Mary Harriet Woodward.
 13. Miss Margaret Shultz.
 14. Miss Elinor Lyons.
 15. Miss Lizzie Bolles Cooke.
 16. Miss Ebenezer Greenough.
 17. Miss Catherine Julana Shoemaker.

REGISTER OF BURIALS IN ST. STEPHEN'S, 1822-1865.

1822.
 November. Mrs. Sarah McCoy.
 Mrs. Ellenor Bowman.
 Mr. John Ellsworth.

1824.

January 17. Maurice Bywater; died January 15, 1824.

NOTE.—The Rev. George Lane, of the Methodist Society, read the burial service of the Protestant Episcopal Church, the Parish being at this time vacant.

David Scott, one of the Wardens of St. Stephen's Church.

March 19. Mrs. Oakley; died March 18, 1824. Buried in Kingston Yard.

March 23. Joseph McCoy, Esq.; died March 21, 1824, aged 33 years.

April 6. Infant child of A. Beaumont; died April 5, 1824, aged 3 months.

Child of — Edwards; aged 2 years.

Child of Pat'k Gormand.

1827.

April 3. — Gormand; aged 23 years.

March 13. Peleg Tracy, one of the Vestry; aged 57 years.

February 28. Dominique Germain; died February 27, 1827, aged 72 years.

Mrs. Harriet Wilson.

Mrs. — McGuiggin.

Mr. Isaac Haines.

Ebenezer Bowman, Esq.; died March 1, 1829, aged 72 years.

1830.

June 5. Infant daughter of Geo. C. Drake, Esq.; died June 3, 1830, aged 2 months.

1831.

Mrs. Santee.

August 10. Lucy, infant daughter of Dr. Atkins; aged 3 months.

August 22. Charles F. Bowman; died August 21, 1831, aged 6 years.

August 22. George Denison, Esq.; died August 31, 1831, aged 41 years.

1832.

November 18. Mrs. Catherine Scott; died November 15, 1832, aged 40 years.

1833.

April 14. James May Bettle; died April 13, 1833.

April 25. Mrs. Hannah H. McClintock; died April 23, 1833, aged 29 years.

May 12. Mrs. Abigail Drake; died May 10, 1833, aged 25 years.

June 12. Hannah H. McClintock; died June 9, 1833, aged 7 weeks.

June 13. Mary Ann Miner; died June 12, 1833. (Infant of Dr. Thomas W. Miner).

July 1. Mrs. Caroline Denison; died July 1, 1833, aged 35 years.

July 23. Susan Bowman; aged 17 months.

Samuel D. Bettle; died November 11, 1833.

1835.

February. Thomas Hutchins; aged 36 years.

1836.

January 25. Mrs. Mary Perry; aged 60 years.

February. Infant of Elijah Worthington.

April 22. Sarah, daughter of H. Pettebone; aged 8 years.

June 19. Mary, daughter of E. W. Sturdevant; aged 3½ years.

August 28. Infant daughter of — Reichart.

September 11. Infant daughter of W. H. Wells; aged 9 months.

September 18. Richard Sharpe; aged 54 years, 6 months.

1839.

April 18. Samuel Keyser; aged 21 years, 7 months.

May 9. James, son of Wm. and Catherine McNally; aged 10 months.

May 9. Hannah, wife of Thomas Collinson; aged 36 years.

July 25. Phoebe Young; aged 89 years.

December 31. Hon. David Scott; aged 57 years.

1840.

May. Charles Vernet; aged 21 years.

December 12. William Boice Scott; died December 9; aged 28 years, 3 months, 16 days; Church Yard.

December 18. John W. Robinson; died December 16; aged 61 years, 8 months, 11 days. Old Ground.

1841.

February 23. Randolph Montanya; died February 22; aged 18 years. Old Ground.

February 26. Benjamin L. Perry; died February 24; aged 26 years. Church Yard.

April 25. Egbert McAlpin; died April 23; aged 21 years, 6 months, 9 days. Old Ground.

October 7. Mrs. Rebecca J. Bull; died October 6; aged 69 years, 27 days. Old Ground.

November 7. Anna Sharpe; died November 6, aged 6 years, 8 months, 29 days. Church Yard.

1842.

January 17. Mrs. — Elder; died January 13, aged 67 years. Paxtangs Yard.

February 3. Mrs. Rachel Hollingsworth; died February 2, aged 46 years. Old Ground.

May 17. Mrs. Lucy E. Miner; died May 15, aged 35 years. Church Yard.

May 30. Mrs. Frances Feuerstein; died May 29, aged 65 years. Old Ground.

May 10. Mrs. James Linch; died May 9, aged 56 years. Old Ground.

July 10. Miss Elizabeth Barnes; died July 9, aged 16 years. Old Ground.

July 21. Mr. William B. Norton; died July 20, aged 34 years, 5 months, 21 days. Church Yard.

August 11. Gen. William Ross; died August 9, aged 82 years. Private ground. Warden of St. Stephen's.

August 21. Miss Mary Watson Dennison; died August 19, aged 18 years. Church Yard.

August 31. Thomas McKinley; died August 30, aged 1 year, 7 months. Plains.

Ada M. Bidlack; died August 30, aged 1 year. Old Ground.

September 30. John Carey Babcock; died September 29, aged 17 years. Old Ground.

October 23. Mrs. Martha D. Sturdevant; died October 20, aged 34 years. Old Ground.

November 13. Ralph Peters, Esq.; died November 11. Church Yard.

1843.

March 19. George B. Dennison; died March 11; aged 22 years, 7 months, 12 days. Church Yard. Candidate for Holy Orders.

May 2. Miss Sarah Barnes; died April 30; aged 15 years, 1 month, 18 days. Old Ground.

May 12. Norman J. Dennis; died May 11, aged 27. Church Yard.

May 23. Frederick Van Fleet; died May 21. Old Ground.

May 25. John Wallace; died May 24. Old Ground.

June 9. Jonathan Sinyard; died June 8. Old Ground.

- June 18. Benjamin Perry; died June 17. Church Yard.
February. Mrs. R. Bethel Clayton; died February.
July 10. Mrs. Catherine E. Titus; died July 8, aged 44.
Old Ground.
July 12. Mrs. Frances M. Strouper; died July 11, aged 85
years. Church Yard.
July 16. George T. Jackson; died July 15, aged 29 years.
Church Yard.
July 30. Lucy Miner Bowman; died July 29, aged 1 year.
Church Yard.
September 12. Eleazar Blackman; died September 10, aged
78 years. Old Ground. Buried with Masonic honours.
1844.
February 3. Benton McNelly; died February 1, aged 11
months. Old Ground.
March 23. Mrs. — — Kithline; died March 21; aged 75
years. Old Ground.
June 1. Mrs. Julia Colt; died May 31. Church Yard.
July 11. William Wilson; died July 10, aged 14 years, 3
months. Old Ground.
August 18. Mary Ann Woodfield; died August 26, aged 16
years. Old Ground.
August 20. Elizabeth Reichard; died August 19, aged 2
months. Church Yard.
August 21. Richard Patterson; died August 20, aged 2
weeks. Old Ground.
August 22. William Hannis; died August 21, aged 34 years.
Old Ground.
September 12. Lucretia Ann Chapman; died September,
aged 21 years, 4 months.
December 11. Jane Burnish; died December 9, aged 13
months. Old Ground.
December 19. Edward Ratheram; died December 18, aged
50 years. Old Ground.
December 28. Jacob Thomas; died December 25. Old
Ground.
1845.
January 12. Mrs. Albertina Schroeder; died January 11,
aged 52 years. Church Yard.
January 25. John Hannis; died January 23, aged 71 years,
5 months. Old Ground.
February 8. Mrs. Ellen Williams; died February 6, aged
26 years. Old Ground.

February 26. Henry F. Lamb; died February 24, aged 61 years. Old Ground.

April 1. Daniel Bristol Ward; died March 31, aged 3 years, 4 months. Old Ground.

April 11. Charles Lewis; died April 10, aged 1 year, 11 months. Old Ground.

June 7. Joseph Walker; died June 5. Old Ground.

June 20. John M. Merrick; died June 28. Old Ground.

July 13. John A. Merrick; died July 11, aged 1 year, 5 months. Old Ground.

July 18. Agnes Wilson; died July 17, aged 15 days. Old Ground.

August 15. Mrs. Mary Slocum; died July 13, aged 26 years. Old Ground.

August 20. Sarah Ann Williams; died August 19, aged 14 months. Old Ground.

November 7. Mrs. Sarah Barnes; died November 5, aged 58 years. Old Ground.

November 7. Constance Merrick; died November 6, aged 3 years. Old Ground.

November 15. Infant son of Benj. A. Bidlack; died November 14, aged 4 months. Old Ground.

November 29. Henrietta W. Drake; died November 28, aged 6 years. Old Ground.

December 26. Winfield Warner; died December 25, aged 3 years, 6 months. Old Ground.

1846.

March 16. George Dalgarno. Old Ground.

May 30. Mrs. Naomi Preston; died May 29, aged 75 years. Old Ground.

June 7. Catherine Hillerd; died June 6, aged 6 years. Old Ground.

July 17. Elizabeth Pettebone Streeter; died July 16, aged 6 weeks. Church Yard.

July 18. Marietta Totten; died July 17, aged 10 months. Old Ground.

William Kingston Morris.

Mrs. — Dille.

1847.

Mrs. Hannah Tracy.

March 7. Mrs. Abi Dennies; died March 7, aged 55 years; wife of Col. Jacob J. Dennis; daughter of Judge Fell. Breeze.

March. Alexander Hamilton Bowman.

Thomas Riley.

April 7. Selida Hoffman.

April 11. Mary Riley; died April 9, aged 12 years.

April 16. William Sharps Pettibone; died April 15, aged 16 years.

April 29. Henry R. Worrall; died April 28; aged 6 months.

May 16. John C. Snow; died May 14, aged 41 years.

August 14. — Eliott; died August 13, aged 12 months.

1848.

July 23. Mrs. Esther Bowman; died July 21; aged 70 years.

August 30. Mr. John Trumbull Robinson; died August 28, aged 34 years.

November 5. Luke Floyd; died November, aged 45 years.

November 26. Mrs. Catherine S. Murdock; died November 24, aged 25 years.

1849.

April 3. Mary Elizabeth, daughter of Capt. Reichard; died April 2, aged 1 year.

July 11. J. Kesler West, of Philadelphia; died July 10, aged 21 years.

July 27. Mrs. Harriett Leavenworth; died July 25, aged 22 years.

November 26. Mr. Thomas Davidge; died November 25, aged 66 years.

1850.

January 21. Ellen May Woodward; died January 19, aged 14 years.

January 27. Mr. John Myers; died January 25, aged 59 years.

March 17. John Goodwin; died March 15, aged 28 years.

May 12. Dr. Thomas W. Drake; died May 10, aged 37 years.

June 6. Joseph, son of Capt. Reichard; died June 4, aged 9 months.

June 26. Jane, daughter of Wm. Patten; died June 24, aged 14 years.

July 24. Thomas Andrew, son of Wm. Patten; died July 23, aged 6 months.

August 2. Gen. Isaac Bowman; died August 1, aged 77 years.

September 1. David George Denison; died August 28, aged 2 years.

- September 6. Thomas Wilson; died September 5, aged 3 years.
- September 13. Jane Lambert; died September 11, aged 70 years.
- October 4. Mary Roughsedge; died October 3, aged 27 years.
- November 10. Rebecca K. Yarrington; died November 7, aged 36 years.
- November 18. Elizabeth Turner; died November 16.
- December 17. Samuel Bertels; died December 16, aged 4 months.
- March 24. Isaac William Prosser; died March 22, aged 15 years.
- May 13. Sarah Griswold; died May 11, aged 75 years.
- June 2. Hannah Patten; died May 31, aged 3 years.
- June 14. John Turner, Jr.; died June 12, aged 19 years.
- June 27. Catherine Snow; died June 26, aged 46 years.
- July 18. Thaddeus Hillard Lynch; died July 17, aged 3 months.
- August 9. Frances Randolph; died August 6, aged 38 years.
- August 23. Emma Frances Mills; died August 21, aged 8 months.
- 1852.
- January 16. William Henry Ensign; died January 14, aged 3 years.
- January 20. John Manley; died January 19, aged 3 years.
- January 30. Elizabeth Elliott; died January 29, aged 3 months.
- March 10. Elizabeth Manley; died March 8, aged 8 months.
- March 29. William Reichard; died March 28, aged 4 months.
- July 23. Charles Roth; died July 22, aged 6 years.
- July 25. Henry, son of S. G. Miner; died July 24; aged 6 years.
- August 23. James Riley; died August 22, aged 12 years.
- September 11. Catherine Coleman; died September 10, aged 63 years.
- September 15. David Richards Horton; died September 14, aged 14 months.
- October 7. James Dudley Eichelberger; died October 5, aged 7 months.
- December 8. Rachel Sharpe; died December 6.
- December 17. Joseph Cook; died December 15, aged 24 years.

1853.

- January 9. Theodore Anson Mordecai; died January 8, aged 3 months.
January 14. Nancy Chapman; died January 12, aged 53 years.
January 23. Eleazer Carey; died January 20, aged 68 years.
March 18. Alfred B. Withers; died March 17, aged 10 months.
August 8. Cornelius Coleman; died August 7, aged 71 years.
August 11. Dallas Bache Bowman; died August 10, aged 2 months.

1854.

- January 15. Joseph W. Potter; died January 12, aged 33 years.
February 4. Benjamin Worden; died February 3, aged 45 years.
March 1. Ellen Louisa Hay; died February 28, aged 1 year.
March 19. John Hunt; died March 17, aged 27 years.
April 22. James Quinn; died April 21, aged 24 years.
July 27. Dennis W. Hillery; died July 26, aged 13 years.
August 5. Frederick McAlpin; died August 3, aged 36 years.
August 6. Thomas Hay; died August 5, aged 29 years.
August 27. Martha Ann Stoops; died August 26, aged 4 months.
August 30. Caroline Ellison; died August 29, aged 10 years.
September 1. Thomas W. Klipple; died August 31, aged 6 years.
September 3. Sarah Elizabeth Klippel; died September 2, aged 2 years.
October 2. Luther Kidder; died September 31, aged 46 years.
October 1. Charlotte Baker; died September 30, aged 35 years.
October 4. Peter Allabach; died October 2, aged 70 years.
October 12. Daniel Collings; died October 10.
October 15. Mary Miner; died October 13, aged 7 years.
November 15. Elizabeth Roughsedge; died November 14, aged 28 days.

1855.

February 21. Emma Bauer; died February 20, aged 2 years.

February 28. Susan Bauer; died February 26; aged 3 years.

April 14. John Cook; died April 12; aged 18 years.

April 28. Sarah Newcomb; died April 26, aged 9 months.

May 13. Esther Ann Ward; died May 10.

May 14. Charles F. Ingham; died May 13, aged 3 years.

May 17. Waters Smith; died May 15.

June 17. Joseph H. Myers; died June 15, aged 33 years.

August 17. Eugene Mordecai; died August 16, aged 6 years.

September 25. Sarah Overholtz; died September 23.

September 30. Patrick McGuigan; died September 29.

November 16. Caroline Diettrich; died November 14, aged 3 years.

January 4. Sylvia A. Tracy; died January 3, aged 5 months.

January 10. Samuel Holland; died January 7, aged 73 years.

February 14. Elizabeth Wearmouth; died February 12, aged 54 years.

February 18. Rachel Ann McGuigan; died February 16, aged 73 years.

April 8. Henry Goodwin Denison; died April 6, aged 2 years.

1856.

May 13. Ann Robinson; died May 11.

June 27. Cornelia Burton Loop; died June 25.

July 10. Julia Riley; died June 9, aged 6 months.

August 17. Robert Newcomb; died August 16; aged 47 years.

September 3. Rosalia B. Tracy; died September 2; aged 21 years.

September 12. Rachel M. Le Clerc; died September 11.

September 18. Milicent Lane; died September 16, aged 53 years.

October 30. Robert Miner; died October 28.

October 31. Rebecca Shrader; died October 29.

Captain Francis L. Bowman; died August, 1856, aged 43 years.

1857.

January 16. John Liggett; died January 14, aged 66 years.

January 18. William Patten; died January 16, aged 5 years.

- January 22. John Severn; died January 20, aged 69 years.
March 1. Ruth Horton; died February 28, aged 9 years.
March 10. Magdalena Riesz; died March 7, aged 35 years.
March 10. Michael Burk [Beck]; died March, aged 45 years.
March 27. Ellen Burk; died March 26, aged 2 years.
April 6. Mary Riley; died April 5, aged 50 years.
March 31. Catherine Scott Woodward; died May 28, aged 35 years.
September 30. Martin Bauer; died September 28, aged 3 years.
October 4. John Sharpe; died October 2, aged 13 months.
October 9. Lydia Trott; died October 6, aged 81 years.
October 19. Mary Elizabeth Carpenter; died October 17, aged 18 years.
1858.
January 15. William R. Marshall; died January 13; aged 1 year.
February 11. Elizabeth May Brundage; died February 9, aged 1 year.
February 16. Emma Adelia Howe; died February 14, aged 47 years, 9 months.
March 9. Ellen Elliott; died March 8, aged 1 year.
March 13. Gilbert G. Teed; died January 18, aged 32 years.
April 10. Emily Walker; died April 8.
June 7. Isabella Brodhun; died June 5, aged 2 months.
June 21. Elizabeth Streater; died June 18, aged 76 years.
November 24. Dr. Thomas W. Miner; died November 21, aged 55 years.
March 5. Frank Teas Sturdevant; died March 3, aged 1 year, 11 months.
March 16. Halsey Brower; died March 13.
1859.
April 9. Catherine Stevens; died April 7.
May 4. Alonzo Rhodes; died May 12, aged 2 years, 4 months.
July 18. Elizabeth Shrader; died July 17, aged 36 years.
October 13. Ann Vernet; died October 11, aged 79 years.
November 2. Charles Erdman; died October 29, aged 8 years.
1860.
February 4. Mary Lee Paine; died February 2, aged 6 years.

February 4. Virginia Barrett; died February 2, aged 7 years.

February 29. Jonathan J. Slocum; died February 25, aged 45 years.

March 24. Ellen May Woodward; died March 23, aged 1 year, 10 months.

June 2. Harry Brodrick; died May 31.

August 7. Samuel Lines; died August 6, aged 57 years.

August 14. Ellen Howe; died August 13, aged 10 years.

1860.

September 5. Mary Ellen Bowman; died September 3, aged 18 years.

September 8. Ellen Elizabeth Barber; died September 7, aged 5 years.

September 29. Susan E. Winchester; died September 27, aged 1 year, 3 months.

October 24. Elizabeth Bulkeley; died October 21, aged 32 years.

November 30. Margaret M. Relator; died November 28, aged 4 years.

December 2. Margaret Colt Johnson; died November 30, aged 3 years, 4 months.

December 19. William Potfield Lockyear; died December 17, aged 3 months.

December 21. Daniel Mordecai; died December 20, aged 6 months.

December 25. Charles Robinson Wright; died December 23, aged 6 years, 7 months.

1861.

January 10. William Vernet; died January 8, aged 53 years.

January 10. Charles Tracy; died January 8, aged 61 years.

January 15. George Rhodes; died January 13, aged 11 months.

January 21. Emma C. Jones; died January 19, aged 8 years, 9 months.

February 17. John Lockyear; died February 12.

February 19. Florence Ellen Mordecai; died February 17, aged 2 years, 4 months.

February 20. Ellen Scott; died February 18, aged 34 years.

March 29. Melinda Collings; died March 28, aged 68 years.

April 16. Elizabeth W. Chahoon; died April 14, aged 49 years.

May 6. Thomas Steele; died May 5, aged 1 day.

- May 8. Henry Pettebone ; died May 4, aged 59 years.
May 30. Catherine Mock ; died May 29.
June 3. Matilda Woodworth ; died June 1, aged 3 years.
June 6. Isaac Gray ; died June 5.
June 7. Jacob Teetor ; died June 5, aged 54 years.
July 5. William H. Elliott ; died July 3, aged 44 years.
August 30. Emma Van Loon ; died August 29, aged 3 months.
August 31. Carrie Lucetta Marcy ; died August 30, aged 1 year.
September 16. William A. Lester ; died September 15, aged 4 months.
September 24. Thomas Dyer ; died September 21, aged 90 years, 8 months.
September 28. George Scott ; died September 26, aged 32 years.
October 17. Burdette Winchester ; died October 16, aged 7 months.
November 2. Elizabeth Sligh ; died November 30, aged 9 years, 8 months.
1862.
January 19. Phebe Ann Lester ; died January 17, aged 22 years.
January 20. Frances Smith ; died January 18, aged 1 year.
March 28. Susan Allobach Drake ; died March 27, aged 40 years.
May 20. Joseph Wright ; died May 18, aged 24 years.
May 23. Mary S. Scott ; died May 21, aged 67 years.
August 17. Thompson Bubble ; died August 16, aged 4 months.
Sept. 18. John Steele ; died September 17, aged 6 years.
September 21. Lucinda Myers ; died September 20 ; aged 11 months.
September 28. Marian Hendrick Hawley ; died September 26, aged 8 months.
October 10. Leah Sturdevant Marcy ; died October 9, aged 7 months.
October 21. Bainbridge Smith Wheeler ; died October 19, aged 1 year, 9 months.
December 14. Arabella Benning ; died December 12, aged 24 years.

1863.

February 4. Mary Reynolds; died February 2.

February 15. Annie Penn Lynch; died February 11, aged 3 years 3 months.

March 20. Ellen Augusta Myers; died March 19, aged 6 years.

April 13. Augusta Kane; died April 12, aged 4 years, 10 months.

April 28. Mrs. ——— Huston; died April 27, aged 38 years.

June 10. Daniel Griffiths; died June 9, aged 45 years.

June 12. Mary Ann Marcy; died June 10, aged 54 years.

June 22. George A. Chase; died June 20, aged 26 years.

July 19. Joseph Tyson Preston; died July 19, aged 57 years.

July 27. Mary Le Clerc Winchester; died July 26, aged 5 months.

August 2. Hiram Denison; died July 30, aged 4 years.

September 27. Mary Ann Relator; died September 26, aged 35 years.

October 8. Jane Weightman; died October 6, aged 76 years.

October 8. Hortense Beaumont; died October 4.

October 9. Joseph L. Tucker; died October 8.

October 11. Joseph Weightman; died October 8, aged 73 years.

October 12. Dr. Charles Streater; died October 10, aged 82 years.

October 25. Louise Albatine Holms; died October 24, aged 9 months.

November 3. Elizabeth Hutchins; died November 1, aged 35 years.

November 6. Maria Corbett; died November 4, aged 8 years.

November 22. Maria W. Ward; died November 19, aged 60 years.

December 3. George Marsh; died December 1, aged 46 years.

December 6. Peter Hass, a little infant at South Wilkes-Barre.

December 24. Catherine Cook; died December 22, aged 14 years.

1864.

January 19. Theodore Titus; died January 16, aged 69 years.

February 9. Harriet Victoria Myers; died February 8, aged 9 months.

February 14. Alice Gray; died February 12.

February 18. Ezra B. Chase; died February 15, aged 36 years.

February 19. Amanda L. Cody; died February 16, aged 24 years.

March 6. Augusta March; died March 4, aged 28 years.

March 15. Sarah Myers; died March 12, aged 27 years, 9 months.

March 22. Samuel Wambold; died March 19, aged 61 years.

March 23. Edith Mordecai; died March 20, aged 1 year.

March 24. Rosana Van Why; died March 22, aged 3 years.

March 28. Francis Scott; died March 27, aged 1 year.

March 30. Elizabeth Sheppard; died March 27, aged 88 years.

March 30. Deborah Tracy; died March 27, aged 80 years.

April 5. Stephen F. Kittle; died April 3, aged 3 years.

April 9. Elizabeth Metcalf; died April 8, aged 64 years.

May 16. Sarah M. Bowman; died March 14.

July 9. Leslie Lyons; died July 7, aged 38 years.

July 18. Arthur Montgomery Moore; died July 16, aged 5 months.

July 22. Maxwell Graham; died July 20, aged 4 months.

July 24. Jane Floyd; died July 23, aged 10 years.

August 3. Jemima Turner; died August 1, aged 71 years; wife of John Turner and daughter Col. Edward Inman.

August 3. Stella Elizabeth Myers; died August 2, aged 5 months.

August 25. John Barber; died August 23, aged 56 years.

August 26. Florence McDonald Sterling; died August 24, aged 5 months.

September 1. Adelia W. Maffet, wife of Win. R. Maffet; died August 29, aged 39 years.

September 14. Margaret Abel; died September, aged 72 years.

September 19. Elizabeth, wife of Rev. Geo. D. Miles; died September 16, aged 44 years.

September 30. James Carp; died September, aged 8 months.

October 6. Harrison Johnson; died October 4, aged 7 months.

October 13. Lucy Louisa Roth; died October 11, aged 1 year.

November 4. Willie Smith; died November 3, aged 7 months.

November 28. Alfred W. Newcomb; died November 26, aged 19 years.

December 2. Jane Campbell; died November 30, aged 70 years [daughter of Rev. John Campbell, D. D., confirmed by Bishop White in St. Stephen's, 1823.]

1865.

January 11. Sherman Nelson Paine; died January 9, aged 2 years, 4 months.

January 12. Dennis Kelley; died January 9, aged 68 years.

February 22. Emily Lindsley Sterling; died February 18, aged 2 years, 7 months.

March 1. Jane E. Stockey; died February 26, aged 20 years.

April 15. — Davis; died April 13.

April 20. Elizabeth Price; died April 18, aged 18 years.

July 14. James Phillips; died July 12, aged 27 years.

July 22. James Hamilton; died July 21; aged 11 months.

July 24. Betsy Price; died July 22, aged 62 years.

August 1. Lazarus Denison; died July 30, aged 1 year.

August 3. John Leonard; died August 1, aged 1 month.

Edwin Tracey; aged 72 years.

September 12. Thomas Wilson; died September 12, aged 31 years.

September 14. John Gaw; died September 13, aged 28 years. These two burned by fire damp.

September 21. Celia Susan Warner; died September 20, aged 5 months.

October 11. Mrs. — Mordecai.

December 11. Mrs. (Col. W.) Elizabeth Lee; died December 8, aged 76 years.

BIOGRAPHICAL NOTES.

DECEASED MEMBERS OF THE SOCIETY.

By OSCAR J. HARVEY, HISTORIOGRAPHER.

MISS LUCY W. ABBOTT,

elected a Life Member in 1900, was born in Plains Township, Luzerne County, Pennsylvania, November 25, 1833, and died December 3, 1914, at her home in Wilkes-Barre, where she had lived for about fifty years. She was the second child and elder daughter of John and Hannah (Courtright) Abbott, members of early and well-known Wyoming Valley families. John Abbott was a grandson of John Abbott, a native of Windham County, Connecticut, who settled in Wilkes-Barre in March, 1772. He took part in the battle of Wyoming, July 3, 1778, and escaped from the bloody field, only to be killed and scalped by Indians some five or six weeks later.

WILLIAM MURRAY ALEXANDER,

elected in 1895, was born in Wilkes-Barre August 26, 1848, and died there February 18, 1912. He was the sixth child and second son of William Hibbard and Maria (Ulp) Alexander. William Hibbard Alexander, born November 19, 1805, at Carlisle, Pennsylvania, was a grandson of Cyprian Hibbard, an early Connecticut settler in Hanover Township, Wyoming Valley, who was killed at the battle of Wyoming, July 3, 1778. William H. Alexander, who, for the greater part of his life, resided in Wyoming Valley (where he died May 3, 1864), was a well-known civil engineer and farmer. He was a member of this Society. William M. Alexander was a successful farmer up to the time of his death. He was married in 1889 to Frances Stewart Pfouts of Wyoming County, Pennsylvania, who survived him.

GEORGE SLOCUM BENNETT,

elected in 1892; Life Member, 1906, and "Benefactor", was born at Wilkes-Barre August 17, 1842, and died there January 2, 1910. He was the youngest child of the Hon. Ziba and Hannah Fell (Slocum) Bennett, a grandson of Judge Joseph Slocum, and a great-grandson of Judge Jesse Fell, of Wilkes-Barre. Ziba Bennett (1800-1878), a prominent and successful merchant and banker and a pillar of the Methodist Episcopal Church in Wilkes-Barre for many years, was commissioned an Associate Judge of the Courts of Luzerne County in 1842. He was one of the founders of The Wyoming National Bank of Wilkes-Barre, and was its President from July, 1868, until January, 1878.

George Slocum Bennett was graduated at Wesleyan University in 1864 with the degree of A. B.; receiving the degree of A. M. in 1867. Locating in Wilkes-Barre he soon became actively and prominently engaged in business affairs. He was a Director of The Wyoming National Bank from December, 1864, and its President from February 13, 1895, until his death. He was Superintendent of the Sunday School of the First Methodist Episcopal Church for upwards of forty years, and during nearly all of that period was actively identified with a considerable number of other organizations and institutions of importance located in Wyoming Valley and elsewhere. He was married in September, 1871, to Ellen Woodward, daughter of the Rev. Reuben and Jane S. (Eddy) Nelson of Kingston, Pa. Mr. Bennett was survived by his wife, two sons and a daughter.

LUTHER CURRAN DARTE,

elected in 1884, was born at Dundaff, Susquehanna County, Pennsylvania, October 27, 1842, and died May 1, 1913, at his home in Kingston, Pennsylvania, where he had resided for forty years or more. He was the second son of Alfred and Ann Elizabeth (Cone) Darté. Alfred Darté (1810-1883) served in the Civil War as Captain of Co. M, 4th Pennsylvania Volunteer Cavalry, from October, 1861, until December 4, 1862, when, on account of wounds received at the battle of Antietam, he resigned his commission. In 1863 he was sent by the Government to Fort Leavenworth, Kansas, where he organized and commanded a regiment

of Sioux Indians. He was admitted to the Bar of Luzerne County November 2, 1846, and was District Attorney of the Mayor's Court of Carbondale in 1871 and 1873, and Recorder of the same Court in 1872 and 1874.

Luther C. Darte served (first, as a private, later, promoted Sergeant) in the 4th Pennsylvania Cavalry—mentioned above—from August, 1861, until October, 1864. Some years later he located in Kingston, and engaged in business there and in Wilkes-Barre. For some time—until within about five years of his death—he conducted an extensive insurance business. He was very active—as a Republican—in political affairs, and served a three-year term (1879-'81) as one of the Commissioners of Luzerne County. He was a member of the Masonic Fraternity, the G. A. R., the Sons of Veterans, the Military Order of the Loyal Legion, and other societies. He was twice married: (1) in 1871 to Isabel Abbott Lockhart, who died in 1895; (2) in 1898, to Josephine Stadler, who, with a son by his first wife, survived him.

ALEXANDER GRAY FELL, M. D.,

elected in 1895, was born in Wilkes-Barre April 20, 1861, and died there suddenly on May 1, 1913. He was the second son and youngest child of Daniel Ackley and Elizabeth (Gray) Fell, and a grandson of Alexander Gray (prominent as a coal operator, merchant and banker), of Wilkes-Barre. Daniel A. Fell (1817-1897) was a successful building contractor for a number of years, during which period many important buildings in Wyoming Valley (for example, the Luzerne County Court House, begun in 1856) were erected under his supervision.

Alexander G. Fell was graduated at Princeton University with the degree of B. S. in 1884, and three years later received from the University of Pennsylvania the degree of M. D. He established himself as a physician and surgeon in Wilkes-Barre and 'ere long acquired a large practise. In 1890 he became a member of the staff of the Wilkes-Barre City Hospital. For a number of years he took a leading and very active part in Luzerne County politics. He was a member of various medical societies, and of the Masonic Fraternity. He was married November 14, 1901, to Rena Maude Howe of Scranton, who, with one daughter, survived him.

THE HON. GEORGE STEELE FERRIS,

elected in 1898, was born in Pittston, Pennsylvania, April 28, 1849, and died at his home in West Pittston April 1, 1913. He was the eldest child of Edwin Fitzgerald and Margaret (Steele) Ferris, and a great-grandson of George Palmer Ransom of Plymouth, Wyoming Valley, who served in the Continental Army from September, 1776, till the close of the Revolutionary War. Subsequently he was Lieutenant Colonel of the 35th Regiment, Pennsylvania Militia.

Edwin F. Ferris (1822-1877) was a member of the original faculty of Wyoming Seminary, established at Kingston, Pa., in September, 1844. Later he was engaged in business in Pittston, and then held a position in a Government department at Washington, D. C.

George S. Ferris was graduated with the degree of A. B. at Allegheny College, Pennsylvania, in 1869, and in 1871 was graduated at Columbian University Law School, Washington. He was admitted to the Bar of Luzerne County February 10, 1872, and practised his profession in Pittston and Wilkes-Barre until November, 1900, when he was elected a Judge of the Luzerne County Courts for a term of ten years. He was a member of the Order of Elks, and of Westmoreland Club, Wilkes-Barre. He was married September 1, 1875, to Ada C. Stark of West Pittston, who, with one son, survived him.

GEORGE HOLLENBACK FLANAGAN,

elected in 1895, was born in Lehman Township, Luzerne County, Pennsylvania, February 4, 1854, and died at his home in Kingston, Luzerne County, January 10, 1915. He was the eldest son of Lorenzo D. and Emily (Ide) Flanagan. Lorenzo D. Flanagan, at the time of his marriage (in April, 1853), was a merchant in Lehman Township. In 1849 and '50 he had been a clerk in The Wyoming Bank of Wilkes-Barre, of which George M. Hollenback was President. About 1871 Mr. Flanagan became a member of the firm of J. B. Wood, Flanagan & Co., which was engaged in the banking business in Wilkes-Barre for a number of years thereafter.

George H. Flanagan was educated at Wyoming Seminary, and upon finishing his studies there became a clerk in the bank of J. B. Wood, Flanagan & Co., mentioned above. For some time about 1880 he was Cashier of the Ashley Savings Bank, and then was Teller in the People's Bank, Wilkes-Barre. He became a clerk in the Wyoming National Bank, Wilkes-Barre, in January, 1883, and from that time until his death continued in the employ of the bank—being its Cashier from and after December 1, 1886. He was a member of the Masonic Fraternity, the Order of Elks, the Wyoming Valley Country Club and Westmoreland Club, of Wilkes-Barre. He was survived by his wife (Julia, daughter of Edwin Davenport, of Plymouth, Pa.) and one daughter.

THOMAS GRAEME,

elected in 1887, was born at Richmond, Virginia, in 1844, and died at his home in Wilkes-Barre March 10, 1911. He was the son of John Graeme, of Scottish descent, who was a merchant in Richmond for a considerable number of years. Thomas Graeme served as a soldier in the Confederate States army during the American Civil War, after which he studied law and was admitted to the Bar in North Carolina. Some years later he became an insurance adjuster, and in this vocation was largely engaged until the near the close of his life. During the last twenty years, or more, of his life he resided in Wilkes-Barre, where, on December 18, 1872, he had been married to Ellen Hendrick, daughter of the Hon. Hendrick B. and Mary Ann (Robinson) Wright of Wilkes-Barre. Mr. Graeme was a member of Westmoreland Club and the Wyoming Valley Country Club of Wilkes-Barre, as well as a member of this Society.

Thomas and Ellen H. (Wright) Graeme became the parents of one son—Joseph Wright Graeme. Graduating at the Annapolis Naval Academy in 1897, he served as an officer of the navy during the Spanish-American War. He was promoted Lieutenant in 1903, and in April, 1906, while in the line of duty, was killed by an explosion on the U. S. S. Kearsarge. He was a Life Member of this Society. (See "Proceedings and Collections" of this Society, XI: 232.)

HENRY HARRISON HARVEY,

elected in 1872; a Life Member, and from 1890 till 1896 a Trustee, of this Society, was born at West Nanticoke, Wyoming Valley, September 30, 1840, and died at his home in Wilkes-Barre February 4, 1915. He was the third child and younger son of Jameson and Mary (Campbell) Harvey, and a great-grandson of Benjamin Harvey (an early Connecticut settler in Wyoming Valley, and a soldier during the Revolutionary War) and also of Capt. Lazarus Stewart, a Wyoming settler who was slain at the battle of Wyoming. Jameson Harvey (1796-1885) was engaged in coal-mining operations at West Nanticoke from 1828 till 1871, being the owner of the "Harvey Mine". During a part of this period he was engaged also in farming and in mercantile pursuits, and in the manufacture and sale of lumber. He was a Life Member of this Society.

Henry Harrison Harvey was educated at Wyoming Seminary, Edgehill School, New Jersey, and Franklin and Marshall College, Pennsylvania.

From 1861 (upon leaving college) till 1871 he assisted in carrying on his father's mining operations. Then, with his brother, he conducted in Plymouth an extensive lumber business. Later, until his death, he was engaged in real estate, street railway and banking affairs. He was a director in various corporations—notably the First National Bank of Plymouth and the Anthracite Savings Bank of Wilkes-Barre. He was a member of the Masonic Fraternity. He was married April 15, 1885, to Jennie Josephine DeWitt, of Belleville, New Jersey, who, with four daughters, survived him.

F. LEE HOLLISTER, D. D. S.,

elected in 1895, was born August 16, 1846, in Middletown, Susquehanna County, Pennsylvania, and died at his home in Wilkes-Barre January 24, 1912. He was the eldest child of Frederick P. and Alice B. (Young) Hollister, and a grandson of Cuza Hollister of Connecticut. Frederick P. Hollister (1820-1902) was a merchant, farmer and tanner, and served a term as Sheriff of Susquehanna County. F. Lee Hollister was educated at the Montrose (Pa.) Academy and the Pennsylvania College of Dental Surgery, Philadelphia. Graduating at the latter institution in 1879 with

the degree of D. D. S., he practised his profession at Tunkhannock and then at Towanda, Pennsylvania, until 1886, when he located in Wilkes-Barre. He was a member of the Masonic Fraternity. He was married September 10, 1869, to Lillie Baker of Susquehanna County, who, with a son and a daughter, survived him.

EDMUND HURLBUT,

elected in 1904, was born at Arkport, New York, November 20, 1826, and died at Kingston, Luzerne County, Pennsylvania, October 30, 1912. He was the second child of Christopher Hurlbut, Jr., and his wife, Ellen Tiffany. Christopher Hurlbut, Jr. (1794-1875) was the son of Christopher Hurlbut, Sr., of Wyoming Valley, and a grandson of "Deacon" John Hurlbut, who was a soldier in the Revolutionary War, a Selectman and Justice of the Peace in Westmoreland (Wyoming), and a Representative from Westmoreland in the General Assembly of Connecticut. Christopher Hurlbut, Sr. (1757-1831), removed with his family from Wyoming Valley to Arkport, N. Y., in 1797.

Edmund Hurlbut located about 1881 in Sheridan, Wyoming, where he resided until 1898, and then removed to Kingston, Pennsylvania. He was an industrious and intelligent student concerning monetary and economic matters, and wrote and published many articles on those subjects. He was married April 22, 1875, to Eliza R. Tiffany.

GEORGE BRUBAKER KULP,

elected in 1881; Life Member, 1915; was born at Reamstown, Lancaster County, Pennsylvania, February 11, 1839, and died at his home in Wilkes-Barre February 15, 1915. He was the son of Eli Sellers and Susanna (Brenneiser) Kulp. Eli Sellers Kulp (1800-1849) was a native of Montgomery County, Pennsylvania, but was, for the greater part of his life, a resident of St. Georges, Delaware, where, for a number of years prior to his death, he was a school teacher. George B. Kulp located in Luzerne County in 1858, and began the study of law in the office of Lyman Hakes, Esq., at Wilkes-Barre. He was admitted to the Bar of Luzerne County August 20, 1860, and in the following October was elected Register of

Wills of Luzerne County for a term of three years. In 1863 he was re-elected for a second term. He was a School Director in Wilkes-Barre from 1865 till 1876; Assistant Assessor of Internal Revenue, 1867-1869; member of the Wilkes-Barre City Council, 1876-1882.

In January, 1872, Mr. Kulp established the "Luzerne Legal Register," a weekly pamphlet devoted to legal affairs. This publication Mr. Kulp owned, edited and issued until January, 1904. One of the features of the "Register" for a number of years was a series of biographical sketches of the judges and lawyers of the counties of Luzerne and Lackawanna. These sketches Mr. Kulp subsequently collected and published in three 8 vo. volumes bearing the title "Families of the Wyoming Valley". In February, 1877, he was one of the founders of "The Leader," a weekly newspaper published in Wilkes-Barre. He was Historiographer of this Society for several years. He was married October 4, 1864, to Mary E., daughter of John and Elizabeth A. (Williams) Stewart of Luzerne County, and they became the parents of five sons and one daughter.

WILLIAM ARTHUR LATHROP,

elected in 1892; Life Member, 1913; was born in Springville, Susquehanna County, Pennsylvania, August 4, 1854, and died at the Wilkes-Barre City Hospital April 12, 1912, following an operation for appendicitis. He was the second child of Dr. Israel Burchard and Mary Elizabeth (Bolles) Lathrop. Dr. Lathrop (1821-1900) was a native of Susquehanna County, and spent his whole life there. He was graduated at the Albany (N. Y.) Medical College, and then, for more than half a century, practised as a physician and surgeon at Springville and thereabouts.

William A. Lathrop was graduated at Lehigh University with the degree of C. E. in 1875. Subsequently he pursued a course in mining engineering, and received from his Alma Mater the degree of M. E. For several years he was employed by the Lehigh Valley Railroad Company as a civil engineer, and then, from 1879 until February, 1888, was actively engaged in engineering work and in superintending coal and iron mining operations in various localities. From February, 1888, until May, 1902, he was Superintendent and General Manager of the Lehigh Valley Coal

Company. Then he became President of the Pennsylvania Coal and Coke Company, whose principal office was in Philadelphia. His home, however, was in Dorranceton, Wyoming Valley. In 1905 or '06 he was made President of the Lehigh Coal and Navigation Company. At the time of his death Mr. Lathrop was a Trustee of Lehigh University; a Director of the People's Bank, Wilkes-Barre, and a member of the University Club of Philadelphia and Westmoreland Club, Wilkes-Barre. He was married March 21, 1881, to Harriet Eliza Williams, who, with one daughter, survived him.

GEORGE WASHINGTON LEACH, SR.,

elected in 1896, was born at Harrisburg, Pennsylvania, on Washington's birthday, 1824, and died at his home in Wilkes-Barre April 30, 1912. He was the eldest son of Isaiah and Eliza (Kelly) Leach, and a great-grandson of Capt. James Wigton who was killed in the battle of Wyoming, July 3, 1778. Isaiah Leach (1786-1837) was a native of Bridgewater, Massachusetts, but about the beginning of the nineteenth century he removed to Harrisburg, Pennsylvania. He was a successful school teacher. Following his death his widow and five children removed from Harrisburg to Wilkes-Barre.

By the time he was twenty-two years of age George W. Leach had become proficient as a painter, and at this trade he worked in various places. From about 1851, until his retirement from active business in 1901, Mr. Leach was extensively engaged in the painting and paper-hanging business in Wilkes-Barre. He was married March 31, 1850, to Mary, daughter of Thomas and Susannah (McKeel) Van Loon of Plymouth, Pennsylvania. Mr. Leach was survived by three sons and four daughters.

WOODWARD LEAVENWORTH,

elected in 1882; Life Member, 1906; was born at Scranton, Pennsylvania, November 22, 1853, and died suddenly in Wilkes-Barre May 26, 1913. He was the eldest child of Franklin Jared and Annie (Woodward) Leavenworth. Franklin J. Leavenworth (1827-1909) was the youngest child of Jared and Jane (Strope) Leavenworth. Jared

Leavenworth was a contractor on public works, and was largely identified with the construction of the Erie and the Delaware and Chesapeake Canals. Franklin J. Leavenworth was admitted to the Bar of Luzerne County January 10, 1848, but after practising his profession for about three years he turned his attention to other pursuits. For the greater part of the time up to 1865 he was engaged in banking, railway and mercantile affairs in Scranton, New York and Philadelphia. He returned to Wilkes-Barre in 1865, and thenceforth, until his death, was actively and successfully engaged there in business.

Woodward Leavenworth began his business career at the age of fourteen years, and during the ensuing four years held clerical positions in two different banks. Later he had charge of the real estate department of the Lehigh and Wilkes-Barre Coal Company, and at the same time was Secretary-Treasurer of the Hazard Manufacturing Company—holding this last-mentioned office for sixteen years. In July, 1881, he was one of the organizers of the Red Ash Coal Company of Wilkes-Barre, becoming its President in October, 1903, and continuing as such until his death. In 1887 he became a Director of the Wilkes-Barre Deposit and Savings Bank; in December, 1903, he became its Vice President, and in November, 1908, was elected its President—holding this office until his death. He was a member of the Wyoming Valley Country Club and of Westmoreland Club, Wilkes-Barre, and was an active and efficient member of the Masonic Fraternity—holding at the time of his death the important office of District Deputy Grand Master. He was married March 13, 1878, to Ida Cornelia, daughter of Garrick M. and Jane W. (Stark) Miller, who, with two daughters, survived him.

THE HON. HENRY WILBUR PALMER,

elected in 1902; Life Member, 1913; was born in Clifford Township, Susquehanna County, Pennsylvania, July 10, 1839, and died at his home in Wilkes-Barre February 15, 1913. He was the eldest child of Gideon W. and Elizabeth (Burdick) Palmer. Gideon W. Palmer (1818-1881) was a native of Hopkinton, Rhode Island. In 1836 he removed to Susquehanna County, Pennsylvania, whence he removed

to Carbondale, Luzerne (now Lackawanna) County, Pennsylvania, in 1841. In 1850 he was elected Sheriff of Luzerne County for a term of three years, and in 1854 was elected a Representative from Luzerne County to the Pennsylvania Legislature. During the American Civil War he served as a Paymaster, with the rank of Major, in the U. S. Army. In 1872 he was elected a delegate from Luzerne County to the State Constitutional Convention.

Henry W. Palmer was educated at Wyoming Seminary, Fort Edward Institute and the Poughkeepsie (N. Y.) Law School. He was admitted to the Bar of Luzerne County August 24, 1861. In 1863 and '64 he served as a paymaster's clerk in the U. S. Army, after which service he returned to Wilkes-Barre and resumed the practise of law—in which he continued until his death. In 1866 he was elected a member of the School Board of Wilkes-Barre, and in 1872 was elected a delegate to the Pennsylvania State Constitutional Convention. From 1879 till 1883 he was Attorney General of Pennsylvania, by appointment of Governor Henry M. Hoyt. In 1900 he was elected to represent Luzerne County in Congress. He was re-elected in 1902, again in 1904, and again in 1908. At the time of his death he was a member of the Westmoreland Club and a Vice President of the Miners' Bank, Wilkes-Barre. He was married September 12, 1861, to Ellen Mary, daughter of George W. and Lucy D. (Bradley) Webster of Plattsburg, New York. He was survived by his wife, three daughters and two sons.

FRANCIS ALEXANDER PHELPS,

elected in 1886; Life Member, 1896; was born in New York City May 4, 1859, and died at his home in Wilkes-Barre July 6, 1911. He was the third child of John Case and Martha Wheeler (Bennett) Phelps, and a grandson of the Hon. Ziba Bennett, mentioned on page 214. John C. Phelps (1825-1892), a native of Granby, Connecticut, removed with the other members of his father's family to Dundaff, Pennsylvania, in 1842. Some years later he took up his residence in New York City, where he was in business until 1862, when he came to Wilkes-Barre, and, with his father-in-law and brother-in-law, established the banking house

of Bennett, Phelps & Co., which transacted a general banking business in Wilkes-Barre until 1879. Mr. Phelps was actively identified with a number of the leading business and financial enterprises of Wyoming Valley, and at his death was a Director of the Wyoming National Bank, the Wilkes-Barre Gas Company and the Sheldon Axle Company.

Francis A. Phelps was, from 1879 till 1882, a student in Wesleyan University, Connecticut, where he was a member of the D. K. E. Fraternity. After leaving college he became a member of the firm of Phelps, Straw & Co., engaged in the hardware business in Wilkes-Barre. A few years later this firm was succeeded by that of Phelps, Lewis & Bennett Company, of which F. A. Phelps was the head. In July, 1892, Mr. Phelps succeeded his father as a Director of the Wyoming National Bank, and he continued to hold that office until his death, at which time he was also Secretary of the Board of Directors. Mr. Phelps was married October 24, 1889, to Margaretta Darling, daughter of William Appleton and Elizabeth (Darling) Drown of Philadelphia, who, with one son and two daughters, survived him.

BENJAMIN REYNOLDS,

elected in 1879; Life Member, 1908; was born in Kingston, Pennsylvania, on Christmas-day, 1840, and died at his home in Wilkes-Barre April 4, 1913. He was the youngest child of the Hon. William Champion and Jane Holberton (Smith) Reynolds.

William C. Reynolds (1801-1869) was the eldest of the nine children of Benjamin Reynolds, of Plymouth, Wyoming Valley, and was a grandson of William Reynolds, one of the very early settlers in Wyoming under the auspices of The Susquehanna Company, and a survivor of the battle and massacre of July 3, 1778. For a number of years, at Plymouth and at Kingston, William C. Reynolds, alone, and in partnership with others, was engaged in the mining and shipping of coal, and in the sale of lumber, grain, and general farm products. In 1836, and again in 1837, he was elected one of the two Representatives from Luzerne County to the State Legislature. In March, 1841, he was appointed and commissioned by the Governor of

Pennsylvania one of the Associate Judges of the Courts of Luzerne County for a term of five years. He was one of the organizers, and for a time President, of the Lackawanna and Bloomsburg Railroad Company. For thirteen years he was a Trustee of Wyoming Seminary, Kingston. At the time of his death, and for several years prior thereto, he was a Director of the Wyoming National Bank of Wilkes-Barre. He was an original member of this Society.

Benjamin Reynolds was graduated at the College of New Jersey (now Princeton University) in 1872 with the degree of A. B. In 1873 and '74 he was a clerk in the People's Bank, Wilkes-Barre. In 1881 he became Cashier of the Anthracite Savings Bank, Wilkes-Barre, and held this position until 1890, when he was elected President of the bank, and continued as such until May, 1912, when the Miners Bank of Wilkes-Barre came into being by a merger of the Anthracite Bank with the Miners' Savings Bank of Wilkes-Barre. Mr. Reynolds was elected President of the new institution, and held the office until his death. He was a Director of The Hazard Manufacturing Company, the Wilkes-Barre and Wyoming Valley Traction Company, and the Hanover Fire Insurance Company of New York, and was a member of the Westmoreland Club.

Benjamin Reynolds was married at Wilkes-Barre December 17, 1879, to Grace Goodwin, fourth daughter of the Hon. Henry Mills and Harriet Irwin (Tharp) Fuller, who, with one daughter, survived him.

CHARLES JONES SHOEMAKER,

elected in 1895; Life Member, 1898; was born in what is now the borough of Forty Fort, Kingston Township, Luzerne County, Pennsylvania, December 5, 1847, and died in Wilkes-Barre September 1, 1915. He was the youngest son of George and Rebecca W. (Jones) Shoemaker. George Shoemaker (1810-1849), who was a well-known merchant and farmer in Kingston Township, was the fifth child of Elijah and Elizabeth (Denison) Shoemaker, and a grandson of Lieut. Elijah Shoemaker and Col. Nathan Denison, who were early settlers in Wyoming Valley under the auspices of The Susquehanna Company, and were prominent and influential in the affairs of the settlement. Charles

J. Shoemaker spent the greater part of his life in Wilkes-Barre. He was never married, and was never actively engaged in business. For some years prior to his death he was a Director of the Miners Bank of Wilkes-Barre. He was a member of the Presbyterian Church, and was a liberal contributor to religious, educational and charitable organizations.

WILLIAM MERCER SHOEMAKER,

elected in 1883, was born June 20, 1840, in what is now the borough of Forty Fort, Kingston Township, Luzerne County, Pennsylvania, and died at his home in Wilkes-Barre November 5, 1911. He was the third child of the Hon. Charles Denison and Stella (Mercer) (Sprigg) Shoemaker. Charles D. Shoemaker (1802-1861) was the eldest child of Elijah and Elizabeth (Denison) Shoemaker—mentioned in the sketch of Charles J. Shoemaker—and was a well-known citizen of Luzerne County. He was graduated at Yale College in 1824; from February, 1824, till April, 1828, he was Prothonotary and Clerk of the Courts of Luzerne County; from April, 1828, till August, 1830, he was Register of Wills and Recorder of Deeds of Luzerne County, and then he was appointed and commissioned an Associate Judge of the Courts of Luzerne County. This office he held for several years.

William M. Shoemaker was educated at Wyoming Seminary and Yale College. Upon leaving college he began the study of law in Wilkes-Barre, but in August, 1861, he was commissioned Second Lieutenant of Company L, 92d Regiment, Pennsylvania Volunteers (9th Pennsylvania Cavalry), in the United States service, and he left home "for the front". April 30, 1862, he was promoted First Lieutenant and appointed Adjutant of his regiment. Having experienced considerable active service in camp and in the field, Lieutenant Shoemaker resigned his commission in April, 1863, and returned to Wilkes-Barre. Here he completed his law studies, and was admitted to the Bar of Luzerne County September 3, 1863. However, he never practised his profession, but engaged in business as an insurance adjuster. He devoted himself to the insurance business for the remainder of his life—being from 1885

until his death a partner in the well-known firm of Thompson Derr & Bro. of Wilkes-Barre. He was a member of the Military Order of the Loyal Legion. Mr. Shoemaker was twice married: (1) February 6, 1879, to Ella Schenck Hunt, of Elizabeth, New Jersey; (2) February 5, 1902, to Mrs. Amelia Wright Atwater of Philadelphia, who, with a son by his first wife, survived him.

CHARLES WILLIAM SPAYD, M. D.,

elected in 1898, was born in Philadelphia March 3, 1840, and died at his home in Wilkes-Barre September 29, 1911. He was the ninth child of John E. and Catherine Ann (Billinghaus) Spayd. John E. Spayd (1799-1871) was a native of Saxony, but for many years was a manufacturer in Philadelphia.

When the American Civil War broke out Charles W. Spayd was a student in the Medical Department of the University of Pennsylvania, Philadelphia. Abandoning his studies he received an appointment as Assistant Surgeon in a regiment of Pennsylvania Volunteers. In August, 1862, he was appointed and commissioned Surgeon of the 53d Regiment, Pennsylvania Volunteers, in the United States service, and in this position he served until honorably discharged from the service in June, 1865. Returning to Philadelphia he completed his medical studies, received his M. D. degree, and then located in Wilkes-Barre, where he practised his profession until his death. Also, during nearly all this time, he conducted a drug store in Wilkes-Barre. He was Coroner of Luzerne County from 1881 till 1884. He was a member of the G. A. R. He was married March 3, 1868, to Barbara J. Hay, by whom he was survived.

ADDISON ALEXANDER STERLING,

elected in 1895; Life Member, 1908; was born in Meshoppen, Wyoming County, Pennsylvania, in 1842, and died at his home in Wilkes-Barre October 5, 1913. He was the eldest child of Daniel Theodore and Susan Ashley (Loomis) Sterling. Daniel T. Sterling (1815-1883) was born at Braintrim, Luzerne (now Wyoming) County, Pennsylvania, of New England ancestry. He was, for many years, until

his death, largely and successfully engaged as a merchant, miller and lumber dealer at Meshoppen. Addison A. Sterling was educated at the University of Wisconsin, of which his uncle, John W. Sterling, LL. D. (at one time a teacher in Wilkes-Barre), was one of the founders, and, for over thirty-four years, was connected with the institution as Dean and Professor of Mathematics.

A. A. Sterling came to Wilkes-Barre in 1872 and became a clerk in the People's Bank, then recently established. In 1882 he was promoted to the position of Cashier, which he filled until 1910, when he was made First Vice President. This office he filled up to the time of his death. He was Vice President of the West End Coal Company, and of the Wilkes-Barre Gas Company, and was a Director in a number of other commercial and financial corporations. He was an original member of the Westmoreland Club; a member of the Wyoming Valley Country Club, the Order of Elks, and the Sons of the Revolution. He was married in 1870 to Mary Hobson, daughter of Charles and Hannah Beardsley, of New York City. Mrs. Sterling died December 22, 1912.

CAPTAIN CYRUS STRAW,

elected in 1895, was born at Hazleton, Luzerne County, Pennsylvania, October 1, 1839, and died March 7, 1915, at his home in Wilkes-Barre, where he had resided since 1885. His father was Andrew Straw, who removed with his family from Hazleton to Butler Township, Luzerne County, prior to 1850.

October 27, 1861, Cyrus Straw was commissioned First Lieutenant of Company K, 81st Regiment (Infantry), Pennsylvania Volunteers, in the United States service. This regiment was engaged in police and scout duty in the neighborhood of Washington until March, 1862, when it took the field. During the Peninsula Campaign it was in action several times, losing heavily. It took part in the battle of Antietam, or Sharpsburg, in Maryland, September 17, 1862—pronounced by competent critics as “the bloodiest day in American history” up to that time. In this battle Lieutenant Straw was wounded. May 1, 1863, he was promoted and commissioned Captain of his company, to rank from October, 1862. He was honorably discharged from

the service June 20, 1863, and returned to his home at Drums, in Butler Township. There, until 1885, he was actively and successfully engaged in the lumber, flour and feed business. For several years about 1880 he was Postmaster at Drums, and previous to that time had been connected officially with the School Board of Butler Township.

From 1885 till 1888 Captain Straw was one of the Commissioners of Luzerne County. Both at Drums and in Wilkes-Barre he was active in Church and Sunday School work. He was a member of the Methodist Episcopal Church.

After retiring from his Commissionership he became a member of the firm of Phelps, Straw & Co., extensively engaged in the hardware business in Wilkes-Barre. He was a member of the Masonic Fraternity and of the G. A. R. For a number of years up to his death he was a Director of the Wyoming Valley Trust Company, Wilkes-Barre.

Captain Straw was married in 1867 to Sarah Hazeltine Leach of New Milford, Pennsylvania. He was survived by a son and a daughter.

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OF VOLUME XIV.

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Rev. Samuel Hart, D. D.

Hon. Samuel Whitaker Pennypacker, died September 2,
1916.

LIFE.

Eckley Brinton Coxe, Jr., died September 20, 1916.

Andrew Fine Derr, died November 18, 1916.

Miss Juliette Genève Hollenback, died January 28, 1917.

Miss Augusta Hoyt, died May 3, 1913.

Mrs. Anna (Miner) Oliver, died March 16, 1916.

George Shoemaker, died

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Col. Eugene Beauharnais Beaumont, U. S. A., died August
17, 1916.

James Martin Boland, died May 14, 1917.

John Cloyes Bridgman, died May 28, 1917.

William N. Jennings, died September 26, 1916.

Charles Jonas Long, died May 10, 1916.

Miss Priscilla Lee Paine, died March 23, 1917.

James Sutton, died June 20, 1917.

Mrs. Frances D. (Lynde) Wadhams, died April 4, 1916.

REVEREND HORACE EDWIN HAYDEN.

After this volume had been printed and was ready for the binder, the Rev. Horace Edwin Hayden died at his home in Wilkes-Barre, Pa., on August 22, 1917, at the age of eighty years.

For many years Mr. Hayden had been Corresponding Secretary and Librarian of the Wyoming Historical and Geological Society with marked efficiency, and it was most largely through his efforts that the Society has grown to its present prosperous condition.

A more extensive history of Mr. Hayden's connection with and work for the Society will appear in a later volume.

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LIST OF EXCHANGES.

The following list represents the many Societies and exchanges the publications of which are to be found in whole or in part in the Library of this Society, 1917:

- Academy Pacific Coast History. California.
- Adams Historical Magazine, D. A. R.
- American Antiquarian Society.
- American Anthropological Society. Washington.
- American Anthropologist. New York.
- American Archaeology and Ethnology.
- Americana (Amer. Hist. Magazine).
- American Catholic Historical Society of Philadelphia.
- American Geographical Society.
- American Historical Association.
- American Historical Review.
- American Institute of Mining Engineers.
- American Journal of Numismatics.
- American Museum of Natural History.
 - (Ann. Rept.)
 - (Bulletins.)
 - (Anthropology and Archaeological.)
- American Monthly Magazine. D. A. R.
- American Numismatic and Antiquarian Society.
- American Philosophical Society. Philadelphia.
- American Scenic and Historic Preservation Society, New York.
- Amherst College, Mass.
- Annals of Iowa—Iowa Historical Society.
- Anthropological Society of D. C.
- Augustana Library Publications.
- Berks County Historical Society. Pennsylvania.
- Boston Society Natural History.
- Bradford County Historical Society. Pennsylvania.
- Bangor Historical Society. Maine.
- Bergen County Historical Society. New Jersey.
- Bridgeport Scientific Society. Connecticut.
- Boston, Massachusetts, Records.
- Boston Record Commission.
- Boston Society of Natural History.
- Bucks County Historical Society. Pennsylvania.

Brookville Society of Natural History. Indiana.
 Brownings Historical Register.
 Buffalo Historical Society. New York.
 Buffalo Archaeology Society. New York.

California Archaeological Society. (University of California.)
 California Historical Society.
 Cambridge Historical Society. Massachusetts.
 Canadian Antiquarian, Numismatic Society.
 Canada Agriculture Bureau.
 Canisteo Valley Historical Society. New York.
 Cayuga Historical Society. New York.
 Carnegie Museum Annals. Pittsburg, Pa.
 Chester County Historical Society. Pennsylvania.
 Chicago Historical Society.
 Colonial Society of Pennsylvania.
 Columbia County, Pa., Historical Society.
 Columbia University.
 Confederate Veteran.
 Connecticut Academy of Arts and Science.
 Connecticut Historical Society.
 Connecticut Quarterly Magazine.
 Connecticut Valley Historical Society.
 Current Anthropological Literature.
 Canada Geological Survey.
 Canada Bureau of Mines.
 Canada Institute. Geology.

Dauphin County Historical Society. Pennsylvania.
 Dawson's Historical Magazine.
 Delaware Historical Society.

Early Settlers Historical Society. Ohio.
 Essex Antiquarian.
 Essex Historical Register.
 Essex Institute (Historical).

Fairfield, Conn., Historical Society.
 Field Museum of Natural History. Chicago. (Ann. Rept.)
 Field Museum of Natural History. (Geology, Anthropology.)
 Fireland Historical Society. Ohio.
 Franklin and Marshall College, Pa.

"Genealogy."
 Genealogical Advertiser.

- Genealogical Magazine.
 Genealogical Society of Pennsylvania.
 Genealogist, The (English.)
 Georgia Historical Society.
 Grafton (Mass.) Magazine of History.
 Gulf State Historical Magazine. Alabama.
 "Geology."
 Geological Survey of Colorado.
 Geological Survey of Georgia.
 Geological Survey of North Dakota.
 Geological Survey of South Dakota.
 Geological Survey of Alabama.
 Geological Survey of Arkansas.
 Geological Survey of Illinois.
 Geological Society of America.
 Geological Survey of Indiana.
 Geological Survey of Iowa.
 Geological Survey of Louisiana.
 Geological Survey of Kentucky.
 Geological Survey of Maryland.
 Geological Survey of Kansas.
 Geological Survey of Mexico. (Geol. Institute of Mexico.)
 Geological Survey of Michigan. (Buletin Minero.)
 Geological Survey of Wisconsin.
 Geological Survey of Minnesota.
 Geological Survey of Tennessee.
 Geological Survey of Missouri.
 Geological Survey of New Jersey.
 Geological Survey of North Carolina.
 Geological Survey of Ohio.
 Geological Survey of Ohio. (Palaeontology.)
 Geological Survey of Oklahoma.
 Geological Survey of Virginia.
 Geological Survey of Pennsylvania.
 Geological Survey of West Virginia.

 Historical and Philosophical Society of Ohio.
 Historical Register. Medford, Mass.
 Holland Society. New York.
 Huguenot Society of America.

 Iceland Archaeological Society.
 Illinois Bureau of Labor Statistics.
 Illinois State Historical Society.

Indiana Historical Society.
Industrial Gazette. Wilkes-Barré.
Iowa Historical Record.
Iowa Historical Department. (Annals.)
Iowa Journal of History and Politics.
 (Iowa Historical Society.)
Journal of American History.
Kansas Historical Society.
Kentucky Historical Society.
Kittochtinny Historical Society. Pennsylvania.
Lackawanna Institute of History and Science. Pennsylvania.
Lamb's Magazine of History.
Lancaster County Historical Society. Pennsylvania.
Lebanon County Historical Society. Pennsylvania.
Leland Stanford University.
Litchfield Historical Society. Connecticut.
Litchfield County University Club.
Long Island Historical Society.
Lossing's American Record.
Lundy Lane Historical Society.
Lowell Historical Society.
Magazine of History. (Abbott.)
Maryland Historical Society Magazine
Maine Genealogical Society. Portland, Me.
Maine Historical Society.
Manchester Historical Association. New Hampshire.
Massachusetts Magazine.
Mayflower Descendant Magazine.
Michigan Historical and Pioneer Society.
Middleburg Historical Society. Connecticut.
Magazine of History. (Abbott.)
Magazine of New England History.
Maine Historical and Genealogical Record.
Mendon, Mass., Genealogical Magazine.
Milwaukee Public Museum.
Mines and Minerals.
Minnesota State Historical Society.
Minisink Historical Society. New York.
Missouri Historical Review.
Missouri Historical Society Collection.

Mitteilungen des Deutschen Pioneer-Vereins.
 Montana Historical Society.
 Montgomery County Historical Society. Pennsylvania.
 Moravian Historical Society.
 Museum Journal.

Narraganset, R. L., Historical Register.
 Naval History Society. New York.
 Nebraska Historical Society.
 New Brunswick Natural Historical Society.
 Newburg Historical Society. New York.
 New Hampshire Genealogical Record.
 New Hampshire Historical Society.
 New Hampshire State Library. State Papers.
 New Haven Colony Historical Society. Connecticut.
 New London Historical Society. Connecticut.
 New Jersey Historical Society.
 New York Genealogical-Biographical Record.
 New York Historical Society.
 New York State Historian. State Papers.
 New York State Historical Society.
 North Carolina Booklet.
 North Carolina Historical and Genealogical Register.
 Numismatic and Antiquarian Society, Philadelphia.
 Numismatist, The.
 Newport Historical Society. Rhode Island.
 North Dakota Historical Society.
 North Indiana Historical Society.

Ohio Archaeological and Historical Quarterly.
 Ohio Old Resident Historical Society.
 Ohio Old Colony Historical Society.
 Ohio Philosophical and Historical Society
 Old North-West Genealogical Quarterly.
 Onondaga Historical Association. New York.
 Oneida Historical Society. New York.
 Ontario Historical Society. Canada.
 Oregon Historical Society.
 Overland Historical and Antiquarian Society.

Peabody Museum of Archaeology and Ethnology. Cambridge.
 Pedigree Register. England.
 Pennsylvania German, or Penn-Germania.
 Pennsylvania German Society.

- Pennsylvania History Club. Philadelphia.
Pennsylvania Historical Society Magazine.
Pennsylvania Historical Society. Series.
Pennsylvania Society of New York.
Phillips Exeter Academy Bulletin.
Philosophical Society of Washington, D. C.
Pilgrim Notes and Queries. (Mayflower.)
Potter's American Monthly Magazine.
Princeton University.
Publishers Weekly.
Putnam's Historical Magazine.
- Quarterly Journal of Society of American Indians.
Quebec Literary and Historical Society.
- Randolph-Macon College. (Historical.) Virginia.
Rhode Island Historical Society.
Rockland County, New York, Historical and Forestry Society.
Royal Society of Canada.
- Schuylkill County Historical Society. Pennsylvania.
Schnectady County Historical Society. New York.
Smithsonian Institute. (U. S. Nat. Museum.)
Smithsonian Miscellaneous Collections.
Somerset County Historical Society Magazine. New Jersey.
South California Historical Society.
South Dakota Historical Society.
South Carolina Historical and Genealogical Magazine.
South Carolina Annal Reports.
Surgeon General, United States Catalogues
Southern Historical Association.
Southern Historical Society.
- Tennessee Historical Society.
Texas State Historical Association.
Ticonderoga Historical Society. New York.
Tioga County Historical Society. Pennsylvania.
Tioga Point Historical Society. Pennsylvania.
Topsfield Historical Society. Massachusetts.
- University of California. (Geology, Ethnology.)
University of California. (Arch. and Ethnol.)
University of Cincinnati. Ohio.
University of Colorado.
University of Kansas. (Scientific Bull.)

University of Minnesota.
 University of Michigan.
 University of North Carolina.
 University of New York.
 University of Oklahoma.
 University of Pennsylvania. (Anthro. Pub. of Univ. Mus.)
 University of Pennsylvania. (Museum Journal.)
 University of Pennsylvania. (Transactions.)
 University Studies of Toronto. (Biological Series.)
 University Studies of Toronto. (Historical.)
 University Studies of Toronto. (Physiological Series.)
 University of Toronto. (Geological Series.)
 United States Geological Survey.
 United States Geological Survey. (Dept. of Interior.)
 University Studies of Harvard, Mass.
 University of Virginia.
 United States Ethnological Bureau.
 United States National Museum.
 United States Public Document Catalogues.

Vermont Antiquarian.
 Vermonter.
 Vermont Historical Society.
 Virginia Antiquarian Magazine.
 Virginia Historical Magazine.
 Virginia Historical Society.

Waterloo Historical Society. New York.
 Washington and Lee University, Va.
 Washington State Historical Society.
 Westchester County Historical Society. New York.
 Western Reserve Historical Society. Ohio.
 Westerly Historical Society. R. I.
 West Virginia Historical Society.
 William and Mary Quarterly. Virginia.
 Wisconsin Academy of Science and Arts.
 Wisconsin Archeological Society.
 Wisconsin Historical Society.
 Wisconsin Natural History Society. (English.)
 Wisconsin Natural History Society. (German.)

Yale College.
 Yonkers, New York, Historical and Library Association.
 York County Historical Society. Pennsylvania.

Indiana Academy of Science.
Iowa Academy of Science.
Kansas Academy of Science.
National Academy of Science.
New York Academy of Science.
Onondaga Academy of Science. New York.
Sweden, Royal Academy of History Science.
Warren Academy of Science. Pennsylvania.
Washington Academy of Science, D. C.
Academy Natural Science. Philadelphia.
American Journal of Science. Sillman's.
Annals of N. Y. Academy of Sciences.
California Academy of Sciences.
Chicago Academy of Sciences.
Colorado Scientific Society.
Davenport Academy of Science. Iowa.
Essex Institute (Scientific).
New England Historical and Genealogical Register.
Nova Scotian Institute of Science.
Osterhout Free Library, adjoining this Society.
"Science."
Political Science Quarterly.
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